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A

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EDITED BY
FRANK P. FOSTER, M.D.

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A STUDY OF ASIATIC CHOLERA DURING THE EPIDEMIC OF 1866.*

By CHARLES A. LEALE, M. D.,
VICE-PRESIDENT OF THE NEW YORK COUNTY MEDICAL ASSOCIATION.

MR. PRESIDENT AND GENTLEMEN: Asiatic cholera again threatens to extend to America. Our advices from India tell us that at present an epidemic of great fatality prevails at Madras, and the telegraphic communications of November, 1884, inform us that, in consequence of the large number of deaths in many places, the villagers are terror-stricken.

During the past summer Asiatic cholera has appeared as an epidemic in France, Spain, and Italy. In Naples, during the months of August, September, and October, the epidemic was exceedingly virulent, and now, during the month of November, the city of Paris is being scourged with the disease. Thus far America has escaped, although we have had frequent arrivals of vessels from infected ports, and many hundreds of our summer travelers, in their annual visits to Europe, have been brought in direct contact with it. We have also imported old rags and other articles for manufacturing purposes from infected places.

The disease has not appeared either in Great Britain or in America. On November 15th, the day before yesterday, there were twenty-six deaths in Paris. How can we escape? The histories of past epidemics in this country clearly inform us that it enters by commerce with infected ports, by either the contaminated clothing of passengers or polluted rags. Newly manufactured woolen or other goods have never been the carriers of disease. In fact, other articles of commerce, and even ships, are safe. Old rags and the wearing apparel of those from infected places are to be specially guarded.

Our observations of epidemics during the past twenty years have taught us many valuable lessons. Let us now apply our knowledge in regard to Asiatic cholera, and we may keep the country free from disease.

In the year 1865 Asiatic cholera was epidemic in Europe. We had just ended our great war; we had a very large floating population; our new States and Territories were being settled by thousands of immigrants from Europe and returned soldiers from the South; there was intense excitement in our native population to recover from the effects of the four years of struggle; sanitary science was less understood; the importance of protection and former epidemics had been almost entirely forgotten. We were warned of our danger, but our officers were prevented from doing their utmost, and, as a result, the prediction was fulfilled, and early in the summer of 1866 epidemic cholera rapidly spread over New York city, and on the following year to the country westward to a distance of over a thousand miles. During the year 1866 the deaths from epidemic Asiatic cholera amounted to one thousand one hundred and fifty-eight in this city.

The Board of Health was fully aroused to the importance of its great work, and so vigorously did they combat the disease that, in the year 1867, cholera in New York city caused only twenty-seven deaths, and never approached the character of a general epidemic.

These facts, confirmed by the experience of many careful observers, have failed to place certain data in regard to this terrible disease in that clear light beyond controversy so much desired by the public, many of whom, without the unanimous opinion of the profession, will not accept the verdict.

We are now threatened as we were in 1865, and, if we are not extremely diligent, it will surely appear as an epidemic next summer. Our duty is a clearly defined one—prevention is easier than a cure. Let us, therefore, do our utmost toward prevention.

A large experience in the practice of our profession during the past twenty years has frequently demonstrated that one of our most difficult duties is to convince the public of approaching danger, and also, after people actually see what was predicted, to keep them from injuring themselves by over-doing. In no disease is this better illustrated than in Asiatic cholera.

We have been asked what became of the immense number of officers of the medical department at the close of our great civil war, and if they returned to the ranks of the general profession. We responded that the large proportion who returned with livers not too seriously damaged, and were not otherwise broken down in health, did as the rank and file of our volunteers—quietly assumed the positions in life most conducive to their health and happiness during times of peace. Yes, said the gentleman, but how could you settle to the drudgery of a most arduous life after enjoying commanding positions where all surroundings tended to do honor? In reply I said that for others I could not respond, but for myself it was neither difficult nor unpleasant.

That it was not for want of the opportunity of securing a position that I had acted as I did, for the Governor of New York State had specially asked for an introduction to me, after I had successfully operated on his son-in-law at Washington, and personally told me that he would do anything for me in the gift of his State within his power. I thanked Governor Fenton kindly, and said that I had another mission in life to fulfill.

When the printed official order came to me notifying me of my honorable discharge from the medical department of the army, I was prostrated on a sick-bed, expecting never to recover from the effects of long exposure to the poisons of hospital gangrene, pyæmia, and typhoid fever. I had broken down twice in health during my hospital service, once having to have my left popliteal vein freely laid open for the exit of pus after an almost fatal attack of septic popliteal phlebitis from having been for months exposed to the worst of blood-poisons, and, secondly, a year later, had typho-malarial fever, contracted while on my last duty as Surgeon-in-Chief of the Northern Defenses of Washington, which ended during a time when the old disease-saturated fortifications and hospitals were being demolished. In February, 1866, as soon as I was able to travel, I went to New York, in a condition so jaundiced that I could readily have been taken for a Mongolian. Medicine had failed, and the change to the bleak, cold March of New York only increased the tendency to a self-thought of my utter worthlessness, and a feeling that my usefulness in life had ended.

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* Read before the New York County Medical Association, November 17, 1884.

I then decided that I would go to Europe and do what I could by volunteering my services to those stricken with the disease, but an opportunity offered too important to ignore. It was at a time when immigration to the United States was at its highest point, when all our ships returned from Europe crowded with passengers, and when so many were exposed to cholera on the ocean and the great danger of continuing its introduction into the United States was by us everywhere dreaded.

At that time that courteous gentleman, Mr. Charles Lamson, told me that, if I would accept the surgeoncy of a ship, he would give me a position on the best one in their service, and said that probably the long sea-voyages to cross the Atlantic might also restore me to health. Subsequent events proved the correctness of his notions, for, after nearly twenty days' continued sea-sickness and vomiting bile, at the end of a month I reached England in restored health, having had, as professional duty, only to attend to one passenger on board, a young man who took the voyage as a trial for the cure of epilepsy.

After a brief sojourn, visiting the hospitals of England and France, I returned to find Asiatic cholera present in Liverpool, and threatening the large number of those intending to make their future homes in America.

On May 1, 1866, I returned from Paris to England, and was informed that three deaths had just occurred from cholera at Liverpool, and that it threatened to become epidemic among the five thousand people temporarily waiting there for passage to America. I sought information from Commander Prior, Royal Navy, the chief emigration officer for the government; and I now desire to tender the gentlemen whom I met at this office our sincere thanks for their courteous attention. With my English credentials, appointing me to take medical charge of the ship, on May 2d I drove to the magnificent packet Harvest Queen, 1,500 tons burden, bound for New York. As her medical officer, I had given her a thorough sanitary inspection, and found all the medicine and surgical appliances complete for a voyage of sixty days across the Atlantic.

It now became my duty to officially sign a certificate in accordance with existing regulations between Great Britain and the United States, after inspecting each passenger in regard to health and sanitary conditions. My previous army experience had taught me to do this in a thorough manner, and, as a result, I excluded two adults as being unfit to proceed, and sent them ashore, refusing the entreaties of others to accept them. One of these was a young woman who six hours previously was apparently well, but was then almost in the collapse stage of cholera. She had been vomiting and purging, and presented many of the usual signs of this malignant disease. I immediately sent her off the ship, and thoroughly disinfected and fumigated anything that might have been contaminated by the cholera poison. It was a chilly day, having snowed in the morning, and I soon became aware of the important fact that I had eight hundred and thirty-six human beings under my professional care, without either a physician, surgeon, or nurse to assist me, on an anticipated long voyage, and with the possibility of Asiatic cholera breaking out after we were in mid-ocean.

The passengers, as a rule, were comparatively healthy, and apparently of a more respectable class of English, Scotch, and Irish farmers and mechanics, there being many middle-aged fathers and mothers, with a large number of children.

The families were allotted compartments so that they could be all together, while the males, in accordance with a just law, were kept in a different part of the ship from the females. The upper deck was much more comfortable than the lower decks, which were below water, and had been converted into bunks to lodge the immense number of human beings. It took us five days after we sailed from Liverpool to reach Queenstown, and the passage in the Irish Sea and through St. George's Channel had been very severe. On the 5th of May the sea was particularly rough, and I had at least six hundred dreadfully sea-sick passengers to care for; fathers and mothers with five or six children were all simultaneously desperately sea-sick, and, as a matter of course, their bunks and places below deck presented a most offensive condition, and, with the heat generated from nearly a thousand human beings confined in so small and dark spaces, we had a typical hot-bed for the spread of cholera; but, as I before remarked, by close inspection I had detected it in the patient before we left Liverpool, and by vigilant sanitation had, as subsequent events proved, eliminated the special poison of cholera from those intrusted to my care, as not a single case occurred in the eight hundred and thirty-six souls during the entire voyage. On the same day that we left Liverpool, as I before stated, cholera prevailed there. The steamer Helvetia left with nine hundred and twenty-five passengers. Cholera broke out among the passengers almost as soon as they started on their voyage, in consequence of which they put back, and the plague was not checked until the surgeon of the Helvetia and forty of the passengers had died from the disease.

"The Helvetia, emptied of her passengers, was subjected to a careful purification and cleansing, and was again ready for sea on the 29th of May, and, although she carried seven hundred and fifty-six passengers, she arrived in New York on June 11th without a single case of sickness having occurred on board."—*From Report of the Health Officer of the Port of New York.*

The great probabilities are that, if the Helvetia had been allowed to proceed on her first voyage instead of putting back and resorting to sanitary means to check the disease, hundreds more of the passengers would have died.

I wish here to tender our sincere thanks to the English physician who kindly instructed me as to the official powers of a surgeon on the high seas in regard to his duties to the passengers, and the obligations of the ship-owners to fulfill their part, as, by knowing these duties and immediately acting in accordance with them, on the first day I was enabled to devote my entire time toward promoting the welfare of those intrusted to me.

We had, as I was told at the office of the company, a captain combining the character of a gentleman with that of a strict disciplinarian; his management of the ship during a hurricane, as he stood lashed to his place of duty, and by the power of will forcing his men to obey him as he managed that grand full-rigged ship battling with the elements, will soon be remembered in these days of iron and steam as a lost art. Of all my six voyages across the Atlantic, this was the most romantic and useful. The food supplied was bountiful, nutritious, and good, and the meat, fish, potatoes, flour, sugar, tea, coffee, and the drinking water, were accurately given in accordance with allowances called for by regulation; it was an illustration of where the company and officers bountifully fulfilled their part, and the overcrowding was excusable when the great numbers of homeless ones in Liverpool exposed to an epidemic of cholera were considered, and anxious to continue their journey. Hundreds more would have come if we had permitted it, our great difficulty being to get off without them.

Intense Fear, Fright, Filth, and Impure Air, with Insufficiently-cooked Food, can not cause Cholera.—What can cause greater fear than the dread of foundering at sea in a violent storm?

What can cause greater fright than the tossing about of a person from the heaving of the ship in the heavy seas between Holyhead and Dublin, where limbs are occasionally broken and it is impossible to stand erect?

What dungeon of Calcutta could exceed in pollution the lower decks of a ship with 836 souls aboard, with over 600 sea-sick, and at least 100 with the diarrhœa following the change of diet and climate? Where could the air have been worse and more impure than in this ship, where ventilation was imperfect in consequence of the dread of filling with water?

Yet we had all these conditions combined, which so many ignorantly assert will cause cholera. We had left an infected port, had had cholera on our ship before we started, but it had been destroyed, and not a germ could have been left, as during our entire and long voyage I did not have a case of cholera; in so many people, and during a voyage of great severity across the Atlantic, lasting from May 2d until landing, on June 4th, I had only five deaths—one, aged fifty-nine, from homesickness and consumption, two infants from pneumonia, and two infants from dysentery; in a voyage of thirty-three days, from a list of 836, including all conditions in life, the infant boy born on the ocean arrived at New York and did as well as others. It is not necessary for me to say that I worked constantly, almost day and night, and in one instance even employing artificial respiration in a young woman who ceased to breathe for some time. She survived, and was landed alive in New York.

If fear, bad air, filth, etc., could cause cholera, the following instance would refute it:

On our way from Liverpool to Queenstown, after we had been on the rough sea two days, with rain wetting the wearing apparel and bedding, with over six hundred helplessly sea-sick, and a large proportion thinking they would go to the bottom, a storm arose, the violence of which was so great that it became necessary to batten down the hatches, thereby forcibly locking all in the hold of a ship which was pitching so furiously that every moment we expected we would sink. I can never forget that terrible night. I had an elegantly furnished state-room for myself—the best on the ship. I had been tossed out of my berth by a sudden pitch of the ship, and felt a little like complaining at my hard lot, until I heard, amid the roar of the tempest, hundreds of human voices, and the batterings of their hands against the securely fastened-down hatches, crying for help, praying to God to save them, and asking to be permitted to get out, even for a mouthful of fresh air, before going down to their supposed watery grave. I was exhausted from overwork, bruised from tossing about, and sea-sick myself, yet that appeal, even for human help, I could no longer resist, so at midnight I put on soft hat, pea-jacket, and high boots, and, with my little hand safety-lantern, scrambled on deck with difficulty, holding on to any object to prevent a fall. I approached the main hatchway, where I could hear still louder the appeals of those below to be saved from an ocean grave. "Oh, help us!" "For God's sake don't desert us!" "How long before we will sink?" "Where is the doctor?" "Can't the doctor come to us?"

To open the hatch and let them on deck would have been certain death, for many, if not all, would either be swept overboard by the sea, which completely washed over us, or they would interfere with the working of the ship, and she might founder and all go down together.

There was only one thing more that I could do to comfort the panic-stricken passengers, and that was to go to them myself and personally cheer them, telling them that if the ship sank I would go down with them. I therefore watched for a moment of safety when no sea washed over the deck, had the hatch opened and quickly descended into the interior, immediately after to hear the battening of the hatch fastening me down in the hold of the ship with over eight hundred human beings—all in dreadful fear and looking to me for succor. The scene as I walked among them can never be forgotten.

Several, on their knees in prayer, as I passed clung to my legs; they caught hold of me as if in desperation. Some were screaming to be saved, families were gathered together in groups on their knees in prayer, others were in the despair of lost hope and stoic in their silence. As I crawled among them they became calm and quiet, and, by a few words fitly spoken, in a short time I had soothed most of them to patient hopefulness. I quieted several hysterical young men and women, and in about two hours had visited them all, even to the lowest deck, and had checked the frightful panic. The air between decks was excessively offensive, loaded with carbonic-acid gas and emanations from the bodies.

I found one young lady, a teacher, partially asphyxiated; this condition was induced and greatly increased by her endeavoring to smother herself in the bedding to escape death by drowning. She was restored, and landed in excellent health. Another, a Mrs. B., with pulmonary consumption, ceased breathing four or five times—once for over two and a half minutes. I worked over her, employing artificial respiration; got her in a short time to swallow a little brandy; she recovered, and also landed in fair health. Just as I had secured quiet and order, a fearful shriek again started the panic. I hurried to the place, and found hundreds in intense horror, and in the midst was a girl in the frightful contortions of epileptic convulsions. I soon quieted their fears, saying that in a few minutes she would be as well as before the attack. I was now called to see women soon to become mothers; they also were soothed, and no bad result or miscarriage followed. The groans of the adults in cholera morbus, those oppressed for air, and the little infants with colic, caused that to be a night of terrors.

Now surely here, in such a reekingly foul atmosphere, where fright and dread were apparent on all sides, we had many factors incorrectly stated by some to be causes of cholera, but the germ of cholera was not present; and, therefore, although there was a most prolific soil, yet not one case of Asiatic cholera occurred during the entire voyage. On a subsequent day, after the storm abated, with great difficulty I got all on the upper deck, some having to be forcibly carried up in the arms of the seamen, as they had neither the strength nor courage to make the exertion. I had the ship ventilated and disinfected during the day. No cholera, but an epidemic of measles followed. Those infected were quarantined in temporary hospitals on deck, and not more than twenty had the disease. I resorted to sanitary measures in preference to medication; had an abundance of fresh, pure air in the temporary hospitals, and plain, well-cooked, nutritious food; the recoveries were rapid, and not one died from any of the infectious diseases.

A most fortunate occurrence was the subsidence of the storm just before the epidemic appeared, permitting the use of the deck during the remainder of the voyage for hospital purposes.

The preceding illustrates the easy mode of protecting our merchant marine and ocean passengers from cholera by thorough inspection of each person before permitting him to go aboard, and, where cholera does gain access to the ship, the benefits of quickly resorting to the well-recognized sanitary laws to overcome and destroy the germs of the disease.

It also presents the danger of omitting the slightest detail where cholera is probably present. See the account of the steamer Helvetia, that left Liverpool the same day as we did—she, with 925 passengers, losing her surgeon and forty passengers from cholera; we, with 836 passengers, and with cholera on board when I first inspected the passengers, ridding ourselves of it within a few hours, and not having a single recurrence of the disease in a passage of thirty-three days.

To prevent the outbreak of cholera in a place, the greatest vigilance is necessary in observing the strictest rules of quarantine by thoroughly disinfecting all persons and articles of clothing coming from an infected port. But, if the vigilance proves insufficient and the disease appears, it is the absolute duty of the attendant to immediately notify the local health authorities, and for them, in their official capacity, to destroy, as quickly as possible, by disinfection and fumigation, all the ejecta of the sick, carpets, furniture, bedding, and wearing apparel, that by any possible means could have become contaminated.

An excellent suggestion in this regard was made by our worthy President, Dr. William Detmold, to the president of the New York Health Commission during the epidemic of 1866—viz., to purchase, at the public expense, all the infected articles, such as blankets and clothing, of the poor, and immediately burn those not practicable to be purified fit for future use. Dr. Detmold thought that by this means the clothing and bedding of the poor would be destroyed when their owners were too poor to replace them, and that the danger of secreting infected articles would, in a great measure, be overcome.

Dr. F. H. Blaxall,* assistant surgeon, H. M. S. Caledonia, gives a very strong illustration of outbreaks of cholera in the vessels after visiting infected ports, the entire subsidence of the disease on going to sea, the recurrence after a second visit to the port, and, finally, the total cessation after again going to sea.

In the practical study of cholera, Great Britain and America have done more than other nations. Great Britain, with opportunities within her own possessions, at the fountain-head of all epidemics, and America on the opposite side of the globe, have been enabled to watch the limitations of the disease.

The literature of these two countries unfolds volumes rich in the results of careful observers, and, in most matters of sanitary reforms, can point with pride to many illustrious names.

In regard to a possible explanation of why epidemic cholera so often breaks out at the end of the first week of a sea voyage, Dr. William Detmold states that immigrants from Europe have, as a rule, been accustomed at home to change their under-clothing once a week, and, on the long sea voyages formerly made by sailing vessels, they continued the same practice; therefore, on the opening of bundles or trunks of clothing, they for the first time exposed to the air garments that might possibly have been infected before leaving port, and which contained the germs of the disease.

Epidemic Asiatic Cholera in New York.—A great desire to clinically study Asiatic cholera was amply gratified during the first weeks of my professional work in New York city during the epidemic of Asiatic cholera in the summer of 1866, when, having nothing else to do, I devoted my entire time to it, and was privileged to observe and care for a neighborhood in which the disease ran a course of great severity, proving fatal in one instance in a few hours from the time of apparent health, also, in another instance, showing the results of successful active treatment and recovery where collapse had lasted for nearly three days, and in a number of cases giving an opportunity to study the sequelæ where the patients were kept under observation for a number of subsequent years. The most important conclusions reached from a study of this epidemic were that:

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* "Transactions of the London International Congress," vol. iv.

1. Asiatic cholera is due to some special *materies morbi* which alone can produce the disease.

2. That the poison may be conveyed by clothing containing the dried or fresh dejecta or vomited material.

3. That nearly all persons, infants and aged, are equally susceptible to its influence.

4. That the period of incubation is only of a few hours' duration—I think acting as rapidly as yeast acts upon dough.

5. That the sufferers are nearly always rendered absolutely helpless to care for themselves, and a very large proportion would die if left unassisted.

6. That active proper treatment will save the larger number of even the most severe cases.

7. That the violence of the disease generally expends itself within the first three days, and, after life has lasted longer, convalescence in nearly all may be expected if treated judiciously.

8. That convalescence is generally rapid.

9. That the mental depression so often noticed after an attack is generally due to the shock on recovery in discovering the death of a number of dear friends.

10. That the severity of the disease is in proportion to the rapidity with which the blood is deprived of its liquor sanguinis by the frequent vomitings and purgings, causing a tendency to capillary stasis, rendering the muscles dry and almost bloodless, directly producing the intensely painful cramps, and making the disease one of the most painful to be borne.

A severe attack of Asiatic cholera during pregnancy almost invariably destroys the fœtus *in utero*, but the woman may go to the end of the ninth month and then be delivered of a maccrated but not decomposed child.

Great immunity was strikingly noticed among those observing the ordinary sanitary rules who were properly nourished and comfortably housed; and also that where such fortunate ones contracted the disease it usually assumed a milder type, and was in nearly every case amenable to efficient treatment; and, where the *materies morbi* was neutralized by having the dejecta disinfected, the plague was stayed.

In the summer during the epidemic of cholera in New York city in 1866 I wrote a letter to one of our sanitarians, and kept the following copy, which gave the results of observations during the time I had a number of cholera patients under my professional care.

The account of the epidemic as it occurred in the above-mentioned locality—which, from its very commencement to its termination, was closely watched by myself (being the attending physician)—appears to be additional evidence in regard to several of the many opinions advanced by scientific men, and which the writer deems it his duty to add to those already given to the profession. We well know that most of the great laws that have proved useful to us in the prevention and cure of disease have only been promulgated after a lapse of time, during which large numbers of accounts and statistics have been tabulated and analyzed, and from which we have in many cases been able to form a definite idea of those maladies which the physician is called upon to contend with.

The important facts gleaned from the following history are:

1. That the cause of cholera may attach itself to clothing, etc., and is portable.

2. That it appears that when the peculiar "*materies morbi*" causing this disease is not brought in actual contact with some ponderable substance capable of absorbing it, but allowed to float in the atmosphere, its deleterious effects are lost; consequently it is necessary for a person to come in contact with it before he can get cholera.

3. The exceedingly short space of time necessary as a period of incubation.

4. The beneficial effects derived by the use of artificial heat.

After a careful investigation, we have (I think) discovered the means of entrance of Asiatic cholera in the neighborhood of 440 West Fifty-second Street, which in the brief period of twelve days proved fatal in three cases, caused a large number to have the premonitory symptoms, and produced such consternation in that locality.

It appears that Peter Crow, the first person attacked, is a driver on the Tenth Avenue cars, and that, while in perfect health, at 4.30 P. M., Sunday, August 12th, he sat upon some baggage that had been placed on the front of the car by a party of five German immigrants who had just landed at Castle Garden. While sitting on their bundles of clothing, he states that he felt a peculiar chilly sensation, and that when he arrived at his home, seven hours afterward, at 11.30 P. M., he commenced to have nausea, vomiting, and purging, which were soon followed by severe and painful cramps. The usual household medicines were administered, but were vomited as they were given; his symptoms continued to assume a more alarming character until the following day, at 11 A. M., when I was sent for, and found him in the collapse stage; he had the peculiar Hippocratic countenance (anxious, livid, and slate-color, with contracted features, and deep, sunken eyes), his pulse was slow and feeble, his extremities were cold and purple, and he was covered with a profuse cold perspiration. The vomiting occurred at intervals of about fifteen minutes, and always preceded the cramps of both upper and lower extremities, which lasted about ten minutes, were very severe, and always followed by great prostration.

I immediately applied artificial heat, and gave the mixture of opium, chloroform, and capsicum. After two hours his body became warm, the capillary circulation was re-established, and he began to converse. I now commenced to give stimulants, carefully watched the circulation at the extremities, and, as he continually called for water (which was always vomited as soon as given), had small pieces of ice placed in his mouth. As he was then in a comparatively comfortable condition, he was left, with the instructions that, if any unfavorable change took place, I should be sent for.

About 4 P. M. he suddenly grew worse, I was sent for, and found that the medicines and all other liquids were vomited as soon as they were swallowed.

I remained with him for three hours, and am convinced that the excessive quantity of matter vomited greatly exceeded that taken into the stomach (by the mouth); during that time the vomit was colorless, resembling rice-water; the dejections were of the same consistency and of a pale brick-dust color, which is the characteristic color that I have found in the intestinal canal of four autopsies made within the past month, in company with Dr. J. Lewis Smith, of patients who have died while in the acute stage of the disease.

The house was now thoroughly disinfected by chlorine, the discharges were removed immediately after having been passed, small quantities of stimulants were given, and the remedies administered in the dry form: ℞ Pulv. opii, gr. xij; pulv. camph., gr. iij; misce, et in chart. xij divid. One to be given every hour (oftener, if vomited). He was wrapped in warm blankets, and his room was well ventilated. The medicines were continued until the effects of the opium could be seen in the contracted pupils of the eyes, after which the powders were discontinued. After this the cramps and spasms occurred at intervals of about two hours, and gradually diminished in severity until the following 7 A. M., when he presented every aspect of a speedy recovery.

I may here state that, of five marked cases (all adults) that I had treated in the month of July by exactly the same method, all recovered.

On the fourth day of the illness of Peter Crow a general icteroid appearance showed itself, and he vomited a large quantity of bilious matter. The vomiting, becoming very frequent, caused great debility. Two-grain powders of oxalate of cerium whenever he felt approaching nausea; twelve powders were given, and, at the end of thirty-six hours, the vomiting ceased, since which he has rapidly convalesced.

At my first visit I had the children of this patient removed from the house, and cautioned those placed in charge of them of the absolute necessity of keeping them away on account of the great danger; but, unfortunately, my advice was several times neglected, and at 4.30 P. M., Saturday, August 18th, John, son of Peter, aged three years, came running to his mother from his playmates in the street, and, as she described it, before he reached her "he was black in the face." In less than fifteen minutes he had severe cramps, nausea, vomiting, and purging. I saw him at 7 P. M., and found him then in a collapse, and without any perceptible circulation at the distal portions of all four of his extremities. Energetic efforts were immediately resorted to to arouse him from that condition, which proved unsuccessful, and he died at 11.30 P. M.—just seven hours from the time that he was apparently well and at play with other children in the street.

Prophylactics were now eagerly sought for, even by those who, before this death, tried to appear skeptical as to the nature of the disease, and for some time not one could be found who would offer voluntarily any assistance, while before this death it was with the greatest difficulty that the sick-room could be kept free from the large number of visitors for a sufficient time to properly ventilate it—all of whom before had positively asserted, even to the undertaker, that the doctors were all wrong, as not a single case of cholera had appeared in the city. However, the remedies were now eagerly purchased, and the great difficulty was found to be in keeping them from taking too large and too frequent doses, as in several cases I saw, by the remaining quantities in the bottles, that enough had been taken by the skeptics to have lasted them a week.

The third person to be attacked was Catherine Crow, wife of Peter, who had been with him constantly since the first appearance of his symptoms. She was taken with nausea at 6.30 A. M., Sunday, August 19th, and in a short time had cramps and the characteristic painless discharge from the bowels (which the appearance of the premonitory symptoms in myself prevented me from examining). Her symptoms did not so rapidly assume so grave a character as did those of her husband, and it was not until the end of forty-eight hours that the cramps became severe. But in a short time she went into a collapse, from which condition she was relieved only after the most vigorous and prolonged efforts, wrapping in hot blankets, warm fomentations to epigastrium, friction, etc., after which stimulants and the prescribed remedies were given. She continued to improve

NINETEEN CASES OF ASIATIC CHOLERA, ALL TRACED TO THE ORIGINAL INFECTION OF PETER CROW, AND BY HIM SPREAD TO HIS RELATIVES AND NEIGHBORS, TREATED BY C. A. LEALE, M. D., DURING THE SUMMER OF 1866, IN NEW YORK CITY.

NAME.	Age.	RESIDENCE.	Date of attack.	CHARACTER OF ATTACK.	RESULTS.
1. Peter Crow...........	29	No. 426 W. 52d St.	Aug. 12.	Very severe painful cramps, frequent painless dejections, in collapse for three days.*	Perfect recovery after jaundice of two weeks' duration.
2. James Crow..........	60	" " " "	' 14.	Moderately severe cramps, diarrhœa, no collapse.	Perfect recovery.
3. Mrs. James Crow......	58	" " " "	" 14.	Very severe cramps, diarrhœa, collapse.†	Never entirely recovered; died in about two years.
4. John Crow...........	3	" " " "	" 18.	Almost fatal collapse while at play, 6 P. M.; came running home seized with painful cramps.	Died in seven hours after first symptom.
5. Thomas Crow.........	5	" " " "	" 18.	Very severe collapse, cramps, and diarrhœa.	Died in two days, on 20th.
6. Christopher Jones.....	35	" 527 " "	" 18.	Mild attack, simultaneous with febrile intermittent tertian.	Perfect recovery.
7. Kate Crow............	19	" " " "	" 19.	Very severe collapse.	Recovery.
8. Mrs. Bridget Crow Kearns............	38	" " " "	" 19.	Very severe collapse.‡	Recovered from cholera, but died, grief, etc.; died 3 A. M., August 24th, exhaustion.
9. Mrs. Christopher Jones, *née* Crow..........	26	" " " "	Sept. 1.	Profound collapse, severe cramps; could be heard screaming two hundred yards off.#	Death, Sept. 2, in 10 hours from first symptom.
10. Thomas Crow.........	35	" " " "	" 20.	Very severe.	Recovery.
11. Mary Crow Donohue...	19	" " " "	" 3.	Very severe cramps and collapse, lasting three days.	Perfect recovery.
12. James Kearns.........	42	" " " "	Aug. 21.	Mild attack, cramps, collapse, and diarrhœa.	Perfect recovery.
13. Patrick Crow.........	34	" " " "		Painless diarrhœa, vomiting, cramps, no collapse.	Recovery.
14. Mrs. Thomas Dillon....	52	" 510 " "		Very severe cramps, diarrhœa, collapse.	Incomplete recovery, and since died of sequelæ.
15. Mary Ann Crow.......	10	" 426 " "	" 27.	Painless diarrhœa, vomiting, cramps, collapse.	Recovery.
16. James Crow, Jr.......	36	" 428 " "	" 27.	Painless diarrhœa, vomiting, cramps, no collapse.	"
17. Mrs. James Crow, Jr...	30	" " " "	" 27.	Painless diarrhœa, vomiting, cramps, no collapse.	"
18. Mrs. Seitz............	44	" 426 " "	" 21.	Very severe cramps, collapse, and profuse diarrhœa.	Perfect recovery.
19. Margaret Crow (Pat's wife)..............	24	" " " "	" 19.	Very severe.	" "

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* *Sequela:* Hepatitis.

† *Sequela:* Debilitas.

‡ *Sequelæ:* General typhoid symptoms, ulceration of glands of intestines.

# Nothing was done; waiting for me; was absent on Blackwell's Island, during autopsies of children who had died of cholera.

until the 21st, when all choleraic symptoms had abated, and she promised a speedy recovery. She had a clean tongue, warm skin, secretions were all very good, and was pronounced to be convalescent. Her eldest son, who had been attacked with the disease subsequently to herself, was now buried. This caused her to become very melancholy, and to refuse to take food (which, however, was given in the form of strong beef-tea by mouth and rectum). On the afternoon of the 21st most of the symptoms of typhus fever showed themselves (all excepting the eruption). She had the sighing respiration; skin slightly above the usual temperature; very slow, feeble pulse. The pupils were dilated to double their usual size, the conjunctivæ were very much injected, and she had the low, passive delirium (continually picking at the bed-clothes, etc.), from which condition it was difficult to arouse her, even for a sufficient time to swallow the nourishment placed in her mouth. Beef-tea and brandy were given every half hour. She gradually grew worse, and at 3 A. M. of the 24th died of asthenia.

Thomas, the eldest son of Peter and Catherine, aged six years, was the fourth to be taken with this awful disease, and whose first symptoms appeared at 6 A. M., Monday, August 20th. He almost immediately went into the collapsed stage, in which condition I found him about two hours and a half after. Every endeavor was made to rescue him, and at one time we partially succeeded, but all of our efforts and perseverance soon proved useless, as he died at 4 P. M., ten hours after the first premonitory symptoms, the vomiting, purging, and cramps having continued almost uninterruptedly until death.

Mrs. James Kearns, sister to Peter Crow, who "laid out" John, was taken with cramps, vomiting, and great pain in the epigastrium on the 19th. The cramps occurred in both upper and lower extremities. She had a livid countenance, and was bathed in a cold perspiration. Vigorous measures were immediately resorted to, and in three days she was able to sit up in bed.

On the morning of the 21st James Kearns, her husband, had the usual symptoms, but less severe. He is now convalescent. Five or six of those living in the same houses also had a few of the premonitory symptoms, which were soon checked.

An analysis of these nineteen cases shows that Peter Crow was in the enjoyment of good health up to the time he sat on the bundles of clothing belonging to these German emigrants, who had just left Castle Garden; that the offensive smell nauseated him; that he immediately began to feel sick at his stomach, and soon had profuse vomiting, and a copious, painless diarrhœa; that, within twenty-four hours from the time he came in contact with the infected clothing, he was in the profound collapse of the algid stage of cholera; that he was the first person in his neighborhood to have cholera, but that, within two days from the appearance of his first symptom, his father and mother were stricken with the disease.

That, six days after Peter's first symptoms, three other members of the family took the disease, and that two of these died after a few hours' sickness. That the epidemic continued to attack other members of the family, in varying degrees of intensity, until the 3d of September, when the disease exhausted itself in the immediate neighborhood, or was stamped out by sanitary measures. That all those who were early treated recovered, except the three, who were apparently overwhelmed by the violence of the poison during the first few hours.

That the dread of cholera is unnecessarily great. That it is wrong to wait for a physician for hours after the appearance of the first symptoms. That it is a disease, if properly treated, of short duration, and a large proportion of those affected recover.

That cholera greatly depresses the nervous system, rendering the convalescent very sensitive to the shocks of bad news, the heart's action is more feeble, and the brain for weeks left irritable from the results of the sudden prostration.

Tracing the Cause of the Epidemic of Asiatic Cholera in the Neighborhood of West Fifty-second Street.—The evidence was so strong of the portability of the cholera poison that I reported my account of it to the Health Department, as a danger of the travel on the street cars, where recently arrived immigrants, with bundles of infected clothing, were also passengers.

Not a death from cholera occurred, under my observation, where the patients' excretions did not come in direct contact with the earth. The residences of the Crows and Joneses were built on the top of a rock irregularly filled with earth, and just such a receptacle as was most admirably adapted to confirm the theory of Dr. Pettenkofer.

Proof of the Limitation or Short Existence of Epidemic Asiatic Cholera in America.—After the epidemic of Asiatic cholera in New York city had been checked, I accepted, for one year, 1866–'67, the appointment of District Visiting Physician, and had under my supervision all that part of the city situated between Forty-fifth Street and Eighty-sixth Street, Fifth Avenue and Hudson River, covering at least five square miles of territory, one mile of which was densely crowded by a most varied population; and, although in this district I had personally treated, the summer previous, nearly fifty cases, one patient with Asiatic cholera, at the corner of Fifty-second Street and Fifth Avenue, where Mr. William H. Vanderbilt's residence now stands, one case on Fifth Avenue near Fifty-eighth Street, one at Seventieth Street, on the old Bloomingdale Road, a few near the Hudson River banks, and a large number in West Fifty-second Street, yet, during the entire year following that I performed this duty, I neither saw nor heard of an instance of the reappearance of the disease.

Mountain Ranges are frequently Barriers to the Travels of Cholera.—Many illustrations in Asia, Europe, and America confirm this opinion, and the most remarkable to be found is

In a recent history of Chili * we are informed that the most fatal diseases are gastric, typhoid, and typhus fevers, and the next pulmonary complaints, dysentery, and syphilis; that the system of sewerage of Chili is generally bad, consisting of partially open channels passing through the houses, sometimes with running water, and at other times nearly dry. Intermittent fevers are unknown, and Asiatic cholera has not yet passed the Andes.

Why should Naples have suffered so terribly from the epidemic of Asiatic cholera during the summer of 1884? is a question to be answered by her sanitary officials. We who have visited that beautiful portion of southern Italy well know that Nature has been wonderfully bountiful in her gifts. Naples is on the shores of the charming bay of

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* "Encyclopædia Britannica," 9th edition.

Naples, a safe harbor from the storms of the Mediterranean Sea, is situated on the slopes of two crescent heights, and nestled between them, with a broad base near the water, a place well adapted for natural and artificial drainage, with a climate in summer cooled by the breezes from the great sea. Beneath the city are many deposits of volcanic soil saturated with sulphur, through which numerous sulphur springs flow continuously. At the most excellent hotel, where I resided, the "*Hôtel Royal des Étrangers*," I was shown sulphur mineral waters, of great purity and excellence, bubbling up a few feet from the door.

It has often been stated that Asiatic cholera has been the means of promoting important sanitary reforms. London and New York can bear testimony to this. The King and Queen of Italy have greatly endeared themselves to their people by their faithful attentions during the past epidemic. Now may we hope that they may complete their labors, and give Naples a good system of sewers and an abundant water supply, keep the lower part of the city in a sanitary condition, and they not only will benefit and elevate their people, but they will so enhance the desirability of Naples as a place of summer resort that, within a few years, I predict it will become the most fashionable summer residence, and the favorite place in southern Italy as a sea-side resort.

The ancient Romans well knew the advantages of the charming bay of Naples in locating their gay summer villas at Pompeii and Herculaneum; and now, over seventeen hundred years after their destruction, in walking through their well-paved streets and examining the remains of their beautiful houses, we readily see how, in the enjoyment of life, the abundant water supply, and numerous baths, the ancient Romans clustered around them all the comforts of life, and, by their Temple of Venus, theatres, and numerous private gardens and paintings, believed in cheerfulness and bodily cleanliness, if not in godliness.

(*To be continued.*)

DISLOCATION OF THE HEAD OF THE RADIUS DOWNWARD (BY ELONGATION).

By Dr. G. POINSOT.

With Comments by Dr. Frank H. Hamilton.

The French edition of my "Treatise on Fractures and Dislocations" contains a note on the above subject by the editor, Dr. G. Poinsot, of Bordeaux. In my last (7th) American edition I have referred to this note, and stated briefly my opinion as to the correctness of Poinsot's conclusions that this ought to be regarded as a separate and distinct variety of dislocations; and, while I see no occasion to change my opinions as there expressed, I am persuaded that the arguments and conclusions made by M. Poinsot are entitled to more space than I have given to them, and, to say the least, they show a careful study of the subject on the part of the writer, and they will doubtless interest a large proportion of your readers. At my request, therefore, Dr. Lucien Damainville, of this city, has carefully translated the entire note, which is as follows:

"§ IV.—*Dislocations of the Head of the Radius downward* (*by Elongation*).

"This displacement, peculiar to childhood and which results from violent traction having been made upon the forearm, has been described by Malgaigne, Denucé, and most surgical authors when speaking of the dislocations forward and backward as being a partial variety of one of those. For several reasons, however, it has seemed to us preferable to devote to it a separate paragraph; if, in many of those dislocations of infancy, the head of the radius is found either forward or, much more rarely, backward, it is nevertheless true, as we shall see presently, that in all cases the mechanism of the primitive displacement is the same; the cause by which the bone is kept in its abnormal situation is identical; in all cases the traumatism is due to a violence of the same order. The analogy is as great regarding the symptoms and the prognosis. So alike between them, whatever the direction of the displacement may be, these dislocations in children differ absolutely from the partial dislocations in the adult; the former are entirely of a benign character, and their reduction is often spontaneous; the latter, on the contrary, are apt to be irreducible, or they always necessitate certain efforts for reduction. In the first case, after the displacement is once reduced, the child is apt to use his arm as well as before, and no precaution is needed to prevent the dislocation from being reproduced; in the second case, it is often very difficult to keep the parts in place, and the patient is always obliged to wear an apparatus for a certain length of time. Therefore, the authors mentioned above have been obliged to divide partial dislocations into dislocations in adults and dislocations in children, and, again, when coming to dislocations backward, such as are observed in the latter, in order to avoid repetition, they had to refer the reader back to what they had said when speaking of analogous displacements forward. Those reasons seem to us amply sufficient to justify the classification which we have adopted.

"*Causes and Mechanism.*—The dislocation downward has been most frequently observed in children two or three years of age; after six years it becomes exceptional. Bourguet, however, met with an example of it in a child thirteen and a half years old.* Again, Dugès has met with it in a newly born infant,† and Malgaigne in children still nursing.

At all events, certain subjects seem predisposed to this accident; thus, in two cases, Perrin has seen the displacement take place in both forearms simultaneously or successively with a persistent tendency to its recurrence.‡

"The immediate cause, noted in the immense majority of cases, is a traction, *with or without torsion*, made upon the hand or forearm, such as in the act of lifting a child to make him pass over an obstacle or to prevent him from falling, or in trying to force his hand through a sleeve that is too narrow. Rendu# and Descamps‖ have observed the dislocation downward in children who had been made to jump as an amusement while being held by the hands.

"The mechanism of these dislocations in children has been variously understood by authors. Fournier and, with him, Duverney, Jr., had admitted an elongation of the radius by stretching of the ligaments; but, being devoid of any anatomical proof, this theory was forgotten before long. The articular displacement being most often very difficult to establish, it was preferred to deny its existence. Gardner* and Rendu maintained that the characteristic difficulty in movements of the forearm was due to a hooking of the bicipital tuberosity by the external border of the ulna, and Bourguet, in addition to that, supposes that there are muscular fibers of the supinator brevis interposed between the two bones. The editor of the "Medico-chirurgical Review" has thought of an epiphyseal separation.† Goyrand, observing that the inter-osseous space was too large to allow the hooking of the tuberosity of the radius, admitted at first that the head of that bone was displaced forward by the biceps, and was fixed in that position, against the inferior extremity of the humerus, by the contraction of the other muscles; but, later on, he abandoned this first opinion and denied that the radius had any participation in the traumatism in question, seeing in the latter only a subluxation of the inter-articular cartilage of the wrist upon the inferior extremity of the ulna.‡ Perrin finally came back to the idea, already enunciated by Duverney, of a displacement downward, and, in order to explain its persistency, he supposed that the edge of the radial cup was pressing against the condyle. Each one of those theories was liable to palpable objections; we have seen Goyrand criticise very justly the theory of hooking; the one in which muscular contraction intervenes in order to pull and fix the radius forward implies a flexion of the forearm and especially a muscular rigidity which are far from being constant. The localization of lesions at the elbow can not be disputed; as to the epiphyseal separation, it has yet to be confirmed, not only anatomically, but also clinically. Finally, the mode of displacement admitted by Perrin would necessarily require a lowering of the radius to the extent of eight or nine millimetres, which would consequently be very difficult to discover, since it is often impossible to establish the least change of relations between the bones.

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* Bourguet, d'Aix, "Revue médico-chirurgicale," t. xv, 1854, p. 288.

† Dugès, "Journal hebdomadaire de médecine," 1831, t. iv, p. 197.

‡ Perrin, "Journal de chirurgie" de Malgaigne, t. 1, p. 136; "Revue médico-chirurgicale," t. v, p. 146.

# Rendu, "Gazette médicale de Paris," 1841, p. 301.

‖ Descamps, "Luxation incomplète des enfants," th. de Paris, 1876.

"Thus stood the question when M. Pingaud, resuming some experiments formerly made by Streubel, threw an entirely new light upon it.

"Streubel, while regarding the partial displacement of the radius forward as the characteristic anatomo-pathological feature of the dislocation of childhood, and while considering the movement of torsion of the forearm as the principal factor in the production of this accident, had noticed that the fixedness of the bone in its abnormal position was due to the interposition of a portion of the capsule and of the annular ligament.# The results of M. Pingaud's experiments were also to demonstrate beyond doubt interposition of the capsule, while establishing, contrary to Streubel, that the displacement of the radius downward, its elongation, to use Duverney's expression, constitute the primitive displacement.

"'If,' says M. Pingaud, 'we examine what is going on toward the humero-radial articulation, when the wrist and the hand of the little cadaver are carried into a state of forced adduction, so as to pull the radius from below, a noticeable separation is seen to take place over the articular interline, and the atmospheric pressure drives and depresses the integuments toward the interior of the articulation. So soon as the traction is abandoned, the radius reascends and resumes its place. In this manner the radius may be made to move back and forth in a parallel direction to the ulna and without any great effort.

"'If the traction is suddenly carried somewhat farther, a slight click is heard, and then the following facts are witnessed: 1. The moment traction is abandoned, the radius does not go up so easily nor so high as it did previously, and a line of depression, perfectly appreciable to the eye and to the finger, is seen to separate its head from the articular condyle. 2. The head, however, is in its place under the condyle, inasmuch as it does not project abnormally either forward, backward, or outward. 3. The movements of rotation of the hand, especially that of supination, are not so free as before; in a word, there is *somewhere* a slight but perfectly appreciable obstacle to the regular performance of those movements. 4. Finally, these movements of rotation cause a slight displacement of the head of the radius in front of the condyle when pronation is slightly forced.

"'If the parts be dissected, they are found in the following condition: No tearing of muscle or ligament can be perceived at the humero-radial articulation, but there is seen a small segment of the radial cup completely uncovered by the annular ligament, which has moved upward only in front. It is evident that the narrow fibrous ring which, in a physiological condition, terminates the annular ligament below and surrounds the neck of the radius, has, owing to its elasticity during youth, been gradually stretched by the lowering of the head of the bone, and that it has gradually slipped above it, at the point only where it is not adherent to the deep surface of the muscles covering it, and where the bony cylinder representing the head of the radius offers so little prominence in the child as to be reduced, so to speak, to a simple border.'

"If, then, the forearm be placed in a state of pronation, a larger portion of the radial cup is seen to emerge from below the annular ligament, and to such an extent that, at the extreme, it might be entirely disengaged from under it, and the head of the radius might be entirely dislocated forward; but the latter displacement is always secondary, and the first stage of the accident now under our consideration consists in the displacement of the head downward.* Such is, therefore, the mechanism of the subluxation in all the rather numerous cases where the head is found slightly displaced forward; but it could not be applied to the cases where an opposite displacement is observed—viz.: that of the head backward. M. Pingaud has remained almost silent on this latter point, but an experiment of Streubel will help us to solve the difficulty; indeed, Streubel remarked that, if a sudden movement of extension and supination be applied to the forearm of a young subject, the head of the radius is plainly felt being displaced backward. If the same experiment be repeated after having removed the skin and the muscles covering the articulation, the posterior portion of the capsule and of the annular ligament may be seen to be highly distended, while at the same time a depression of more or less depth is produced at the anterior portion, the atmospheric pressure determining at that point the interposition of the corresponding portion of the capsule. Here, again, a primitive displacement downward is necessary to allow the separation of the bones and the interposition of the ligaments, the movement of supination intervening only to determine the direction of the secondary antero-posterior displacement.

"To sum up regarding the partial dislocation in children: 1. The primitive displacement, resulting always from a traction applied in the direction of the axis of the radius, consists essentially in a lowering of that bone which allows the interposition of the capsule and of the annular ligament. 2. The movement of torsion of the forearm has influence only upon the secondary displacement, in order to determine its direction antero-posteriorly.

"*Symptoms.*—At the time of the accident, the person holding the child by the hand can generally perceive a cracking in

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* Gardner, "Gaz. méd. de Paris," 1837, 21 Oct., p. 664.

† "Medico-chirurgical Review," 1839.

‡ Goyrand, "Annales de la chirurgie," 1842, t. v, p. 129.

Streubel, "Prager Vierteljahrsschrift," 1850, Bd. i u. ii.

* Pingaud, art. "Coude," in "Dict. encyclopédique des sci. med.," 1re série, t. xxi, p. 581.

the joint. At the same time, the child experiences in the elbow a very sharp pain, which he manifests by his cries, and the limb is seen to be powerless; it falls inert, generally flexed one quarter, and in a position midway between pronation and half-pronation. In a few exceptional cases, however, almost complete extension and supination of the forearm have been met with. The deformity is ordinarily very slight; Bourguet had called attention to an increase of the antero-posterior diameter of the elbow which has not been confirmed by the other observers. It is pretty rare, notwithstanding Malgaigne's statement, to see a prominence of the head of the radius in front; the prominence behind is scarcely ever observed.

"The symptoms of the partial dislocation in children are, as may be seen, pretty vague; those that may be considered as characteristic are the inertia of the limb and the impossibility to give the forearm the necessary movement of torsion in order to bring it back in the opposite position to that in which it is found (movement of supination if, as is generally the case, the forearm is found in pronation, and *vice versa*).

"*Prognosis.*—Left to itself, that dislocation gets well almost always, and often there is no time even to consult the surgeon. My brother, then two years and a half old, experienced an accident of this kind; he had been made to jump over a gutter by being lifted by the hand. Before the family physician could arrive, the displacement was reduced by means of a few frictions applied at the bend of the elbow, and, probably, also of a few attempts at extension of the forearm; the symptoms disappearing at once. Nevertheless, that spontaneous reduction may be tardy, and it is better to act without delay.

"*Treatment.*—The different modes of reduction indicated in the case of complete dislocations are applicable in this instance. Generally, when the forearm is in a state of pronation, it is sufficient, during extension, to bring back by force the limb into supination, and then to flex it suddenly. If the forearm is in a state of supination, it will be necessary, after having exaggerated the extenson, to put the limb in pronation, but without flexing it.

"In case some displacement of the radius should be noticed, it would be well to add to these manœuvres a certain amount of pressure upon the head of the radius in the direction of the condyle of the humerus." *

One who reads carefully the foregoing note of Poinsot will see that he has left me no occasion to review critically the opinions of several of the writers who have attempted to explain the mechanism of this accident. Poinsot has discussed and rejected, as either improbable or unproved, the theories of Fournier, Duverney, Jr., Gardner, Rendu, Bourguet, the editor of the "Medico-chirurgical Review," Goyrand, and Perrin; and in these conclusions of the distinguished writer I concur.

Poinsot has, however, accepted of the theory offered by Pingaud as a satisfactory explanation of those cases in which, at an early period of life, there is a subluxation forward occasioned by pulling, or by lifting the body by the arms; and he accepts as, perhaps, only a little less satisfactory the explanation offered by Streubel of the subluxation backward which is occasionally observed.

So far as the anterior subluxation is concerned, I think the explanation offered by Pingaud is exceedingly ingenious and plausible, and that it only needs some additional croroborative experimental testimony on the part of other surgeons to establish its absolute accuracy; but I confess that I entertain some doubts whether further experiments will not show that it is not the true explanation of *all* cases belonging to this special class of accidents; and whether, indeed, it will not be found to be the exception rather than the rule. I shall be disappointed if further experiments do not show that in most of these cases there is nothing different from a subluxation as it occurs in other joints—namely, a stretching or partial rupture of the capsule, or of the ligaments, which, in certain positions of the radius, allow the head to become partially displaced. If this is shown to be the fact, then the displacement of the annular ligament observed by Pingaud must only be regarded as a complication; the same as when, in a dislocation at the humero-scapular articulation, the long head of the biceps or the untorn capsule presents itself in such a situation as to prevent the reduction, unless the surgeon resorts to certain manœuvres of position and rotation. The fact that it may perhaps be found hereafter to be only a complication seems to me a sufficient reason why, in my last edition, I have not adopted Poinsot's suggestion, and given to all those accidents occurring under the circumstances described a separate classification, under the title of "dislocation downward."

Another difficulty in the way of Pingaud's theory of mechanism as applied to the accidents in childhood caused by lifting is, that it only applies to the forward dislocations, leaving the backward dislocations unexplained. Poinsot saw this defect, but found in the theory of Streubel an explanation which seemed to him to supplement the theory of Pingaud, and to render complete his own theory that, in all of these cases, the primary accident was an elongation of the capsule, and the displacement a secondary accident, while the maintenance of the bone in its abnormal position was due to interposition either of the ligament or of the capsule; but the theory of Streubel, like that of Pingaud, needs further evidence to be considered established. No doubt there is in most or all of these cases a stretching of the capsule, and perhaps the dislocation is most often secondary, or takes place immediately following the stretching or elongation of the capsule, in consequence of the greater freedom of motion which is allowed to the head; beyond this the theories accepted by Poinsot are less satisfactory, and will have to be subjected to further experimental observation and study.

While we are waiting for the more complete solution of the mechanism of this accident, I would like to add one more to the possible explanations. It seems to me not altogether improbable that a certain proportion of these accidents are not dislocations at all, but only examples of temporary injury done to the musculo-spiral nerve, which nerve, as it emerges from beneath the triceps and passes in front of the elbow between the supinator longus and the brachialis anticus, would seem to be peculiarly exposed to strain when the forearm is in a position of extreme extension, as it is when the child is lifted by the hand; but, in early childhood, the forearm is capable of being carried backward considerably beyond the line of the axis of the arm and forearm, into a position of slight dorsal flexion, and in this position the musculo-spiral nerve would be especially subject to strain.

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* "Traité pratique des fractures et des luxations, par Fr. H. Hamilton, chirurg., etc. Traduit par G. Poinsot, Profr. agrégé à la Faculté de Méd. de Bordeaux, chirurg. des Hôpitaux." Paris, Baillière et Fils, 1884, pp. 895–899.

Of course, this explanation would not apply to those cases in which the head of the radius is recognized as being in an abnormal position, or in which the surgeon found it impossible or difficult to flex or rotate the arm; but only to those cases in which the accident, being accompanied with a sharp pain at the moment of its occurrence, presented no projection of the head of the radius in either direction, and in which the surgeon could perform all the usual motions of flexion and rotation, but the patient could not voluntarily perform these motions, and in which these symptoms disappeared without any surgical interference in a short space of time. Such examples are not very infrequent, but hitherto they have been regarded as partial dislocations which have undergone a spontaneous or accidental reduction.

REPORT OF A CASE OF COMPOUND DISLOCATION OF THE RADIUS AND ULNA, WITH RUPTURE OF THE BRACHIAL ARTERY.

By CHARLES A. POWERS, M. D.,
LATE HOUSE SURGEON TO THE CHAMBERS STREET HOSPITAL.

C. T., aged forty-nine years, married, a native of the United States, a canal-boatman, was brought to the Chambers Street Hospital in an ambulance at 10.17 A. M., June 17, 1884, with the following history: About half an hour previously he had fallen headlong some fifteen feet, the entire weight of the body being received upon the extended palm of the left hand; there was at once profuse arterial hæmorrhage from the region of the left elbow anteriorly, which was promptly checked by tightly tying a handkerchief about the arm.

On admission, the patient was conscious, face pale, lips blanched, surface cool, muscles relaxed, pulse on uninjured side 84 and of good strength, respiration and temperature normal. He was unable to move the left forearm and hand, there was semi-anæsthesia of these parts, and the temperature was considerably lower than on the opposite side; there was no pulsation in the radial or ulnar artery of the left side.

Examination revealed a lacerated wound over the anterior aspect of the lower extremity of the left humerus, commencing without at a point two centimetres above the external condyle, and extending downward and inward ten centimetres to a point one centimetre above the internal condyle; through this wound protruded the lower articular extremity of the humerus. The synovial membrane was torn entirely across anteriorly, the external and internal ligaments of the elbow ruptured, the radius and ulna dislocated backward and outward, the brachialis anticus muscle ruptured opposite the articulation, and the brachial artery ruptured about four centimetres above its bifurcation, the upper end being occluded by a clot, and lying loosely in the wound. The median nerve passed across the trochlear surface of the humerus, and was somewhat contused; the tendon of the biceps could be felt behind the external condyle, and was still attached to the tuberosity of the radius.

The wound was continuously irrigated with a solution of the bichloride of mercury, one part in one thousand, a firm catgut ligature placed upon the upper end of the brachial artery, and the dislocation of the radius and ulna easily reduced by over-extension, traction, and flexion.

The upper end of the lower fragment of the artery had retracted so much that it could not be found without dissection, and was not sought, as there was no hæmorrhage from it.

Catgut ligatures were applied to all bleeding points, the forearm placed at an angle of 90° with the arm, the wound loosely packed with iodoformed gauze for drainage, and a large dressing of peat and borated cotton applied from the shoulder to the wrist, with a posterior right-angled splint of felt.

At 4 P. M. he was without pain, and perfectly comfortable, sensation and motion in hand and fingers apparently normal, no appreciable difference in the temperature of the hands, both of which were warm. A light diet was ordered, and the patient advised to lie quietly in bed, the arm being comfortably supported by pillows.

At 6 P. M., temperature 99·4°, respiration 18, pulse 94. June 18th, A. M., temperature 100°, respiration 18, pulse 100. The patient slept well during the night, experiencing no pain or discomfort. P. M., temperature 98·6°, respiration 18, pulse 100; condition, both local and general, in every way good.

During the six succeeding days the temperature was at all times normal, except on the evening of the fourth day, when, without apparent cause, it rose to 101°, but, as there were no other local or general symptoms, the dressing at elbow was not removed, and the following morning the temperature was again at normal. The pulse ran from 90 to 100, the appetite was good, the bowels regular; there was at no time œdema of hand, or any local pain or discomfort; sensation and motion of fingers were at all times perfect.

June 24th, seven days after the accident, the dressing was removed under strict antiseptic precautions. There was a moderate discharge of healthy pus, the wound had been well drained, there being no pocketing; its bottom showed healthy granulations, the edges were of good color, and there were nowhere evidences of inflammation.

The forearm was flexed to an angle of 75°, the wound dressed, as before, with iodoformed gauze, peat, and borated cotton, and a light plaster-of-Paris splint applied over all from the wrist to the shoulder. During this, as well as all subsequent dressings, the wound was continuously irrigated with a solution of the bichloride of mercury, one part in one thousand. Patient now allowed to be up and about the ward, with arm supported by a sling.

The wound was again dressed on July 3d and 11th, respectively the sixteenth and twenty-fourth days after the accident, the discharge being of a healthy character and the granulations gradually approaching the surface. The edges had so contracted that on the latter date it was about 4·5 centimetres long by 1·5 centimetre at its widest part. The forearm was at each time fixed at a somewhat different angle, and at the fourth dressing a fenestra was left in the splint, and the wound afterward dressed daily with the balsam of Peru.

July 16th, twenty-nine days after receipt of injury, there was simply a healthy granulating ulcer, two centimetres by one centimetre at site of wound. There was moderate power of pronation and supination of forearm, and it could be flexed from an angle of 95° to one of 70°. The use of the splint was now discontinued, and passive motion carefully made morning and evening.

Six days later he was allowed to go home, with instructions to return daily for treatment. Under the passive motions the forearm rapidly resumed its ordinary movements, so that, on August 7th, forty-nine days after his admission, he could himself completely flex and almost completely extend it.

Pronation and supination were perfect, and, the ulcers having entirely closed, he resumed, against advice, his usual duties on the canal-boat, which consisted almost entirely in lifting heavy goods.

I saw him last on October 20th, and at that time all motions of the forearm were perfect, and there was a faint pulse in the radial artery. He told me that his arm was in every way as good as before the accident, and it had certainly been subjected to severe tests.

In this case the elbow joint was the seat of a severe injury. Not only was the joint thoroughly opened and all its attachments torn, but the main artery of the limb was occluded. Yet, with rigid antisepsis, careful attention to position, and the early employment of passive motion, a perfect result was reached in a period scarcely longer than that required in simple non-complicated dislocations.

A CASE OF VARICOCELE,

WITH SLIGHT VARICOSITY OF THE SPERMATIC VEINS, BUT GREAT ENLARGEMENT OF THE SCROTAL VEINS AND REDUNDANCY OF THE SCROTUM.

Removal of the excessive portion of scrotum, including the entire mass of enlarged scrotal veins, followed by perfect cure.

By MORRIS H. HENRY, M. A., M. D., LL. D.,

LATE SURGEON-IN-CHIEF, NEW YORK STATE EMIGRANT HOSPITALS; FELLOW NEW YORK ACADEMY OF MEDICINE.

The value of clinical contributions is not in a repetition of reports of well-known and established clinical facts, but in the observation and record of rare forms of diseases and suggestions that aid in the diagnosis and successful treatment of the same. Any deviation from the ordinary course or courses of surgical diseases must be of especial interest to the surgeon; additionally so when occurring in a class of cases that are not of uncommon occurrence. They serve to modify or sustain impressions of the pathology of the disease, and of the best methods for surgical interference.

Case.—M. H., twenty-eight years of age. Born in Ireland. Laborer; unmarried; five feet nine inches in height; robust; weight about one hundred and seventy pounds. Has slight varicosity of the left spermatic veins, enormous enlargement of the scrotal veins, principally along the lower third of the scrotum; great redundancy of the scrotum, extending seven inches below what would be regarded as the normal length. He complains of dragging pain in the right and left inguinal regions, and along the inner course of the thighs; distress after being a short time on his feet; annoyance when crossing his legs, and, in fact, the ordinary bad features of the disease. Added to these, the distress of a suspensory bandage pressing directly against the most dependent portion of the scrotum in immediate contact with the largest knot of enlarged scrotal veins.

May 11, 1884.—Under the influence of ether, administered by Dr. Pryor, and in the presence of several surgeons, I removed the whole of the excessive or redundant portion of scrotum, including the mass of enlarged scrotal veins. The upper or main trunks of the veins were small compared with those removed with the scrotum.

After applying my clamp, which embraced all I desired to remove, I passed four black-silk ligatures through the parts under the clamp, excised the redundant portion, removed the clamp, washed the parts with a weak solution of the bichloride of mercury, and then closed the wound with catgut sutures. The object in passing the black-silk ligatures through the edges of the wound previous to the removal of the clamp was done to retain control of the reduced and contracting scrotum, thus avoiding, to a great extent, exposure and handling of the glands, and to serve as additional and distinctive means of retaining the cut edges together should the catgut ligatures be absorbed or give way before union could take place.

I deviated in this case from my usual plan—that of passing pins through the scrotum to secure the edges previous to the removal of the clamp—because I was forced to cut through some few vessels that I preferred to tie rather than leave to the acupressure effect of the pins. These were, of course, the large veins of the scrotum not met with in the common or ordinary cases of varicocele. I therefore merely changed my ordinary plan of treating this wound to meet the change or deviation from the common forms of this disease.

The wound did well; while it did not unite, along its whole course, by first intention, the surfaces remaining to heal by granulation were so slight that the patient felt no inconvenience whatever when the wound was dressed—one part of iodoform to four parts of oxide-of-zinc ointment, applied morning and evening, and secured by perineal bandage—to leave his room on the seventh day and attend to his business. In the course of the following week the wound improved daily, and in ten days from the time he left his room it had entirely healed.

December 27, 1884.—I examined the patient this day, and the result of the operation is all that is claimed in its favor.

This case is one of exceptional interest. In the examination of several hundred cases of varicocele, I have never met with one like it. The special features are: its existence in a man twenty-eight years of age—the disease of not more than two or three years' origin—and the man of robust, fine physique—an athlete, and accustomed to daily hard work. He is a temperate man, has never contracted any venereal disease, nor indulged in any venereal excesses. There is no evidence whatever of any enlargement of the veins along the course of the thighs or legs, or in or about the rectum.

581 Fifth Avenue, New York.

A CASE OF OUTWARD DISLOCATION OF THE TIBIA.

By R. B. JESSUP, Jr., M. D.,

LATE HOUSE SURGEON TO THE CHAMBERS STREET HOSPITAL.

Louis Correard, aged fifty, was brought to the Chambers Street Hospital, May 12, 1884, a few minutes after having sustained an injury to the left knee, during a scuffle with another man. They both fell in such a way as to bring the entire weight of his opponent upon the inner aspect of his leg as he was falling.

On examination, the left leg was immovably fixed in a flexed attitude, a little beyond a right angle. The articular surface of the tibia was displaced directly outward from the posterior surface of the condyles of the femur, and was rotated in an outward direction. This exposed the internal condyle and the groove between the condyles. The patella was directly over the outer surface of the external condyle. The tibia was in contact, by its inner tuberosity, with the external condyle of the femur. There was no great swelling, but the skin was tense and red over the inner condyle.

An attempt at reduction without ether failed. Ether was administered, and the thigh firmly held by an assistant. The leg was first forcibly flexed, the right hand of the operator firmly grasping the tuberosities of the tibia from the lower side, the left hand grasping the leg at its middle. While forcible flexion was being made, traction was made in the line of axis of the femur, at the same time the thumb of the right hand pushed the patella inward, and the leg was extended by the left hand.

Considerable difficulty was experienced in the reduction, even under ether, which was due to the peculiar position of the patella, the parts almost falling into place as soon as it was pushed inward from off the external surface of the outer condyle. The internal lateral ligament was found to be ruptured, and, in all probability, the crucial, but the external lateral ligament was intact, having been saved by the outward rotation of the tibia, which took place at the time of the accident. A Volkmann's posterior splint, heavily padded with cotton, was applied, and bandaged from the foot. The patient came out well from ether.

On the next day there was some effusion into and around the joint, the skin was red over internal condyle, and circulation in limb good.

May 17th.—The limb was put into a plaster dressing from the ankle to the hip.

20th.—Plaster splint cut open down the front and about one inch taken out along its entire length, after which it was reapplied.

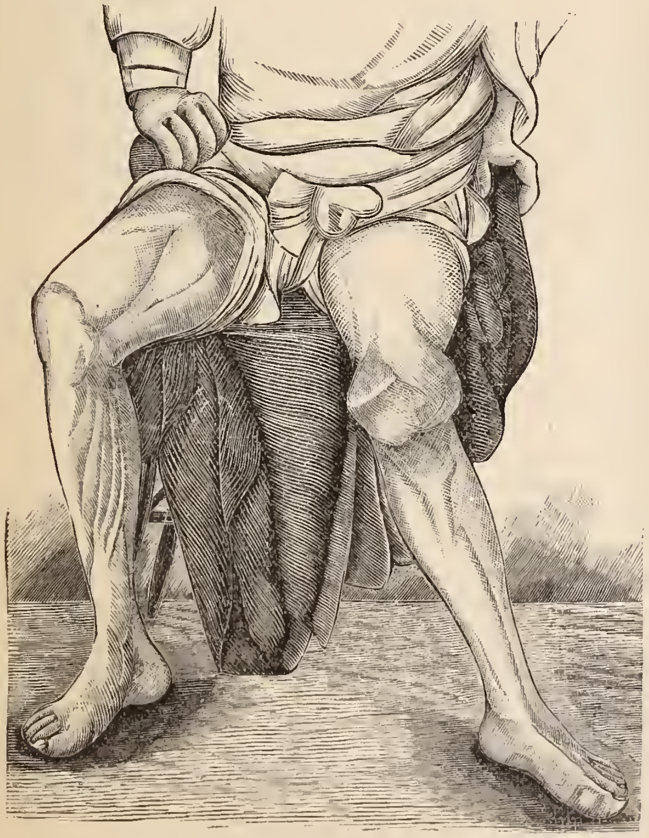
June 2d.—Patient allowed to be up on crutches with plaster still on. Passive motion begun.

24th.—A posterior splint from middle of leg to middle of thigh substituted for plaster. Patient walks without support. He can flex leg from full extension through about 20°.

28th.—Sent home to report in two days. Circumference of right knee 13¾ inches; of left knee, 14¼ inches.

30th.—Walks with posterior splint still, which has been shortened. Can flex leg through arc of about 55°.

October 1st.—Patient wears rubber bandage about the knee. There is some lateral weakness, but he walks and works without inconvenience.



Dislocations of the knee are considered by all authorities as the rarest of those of any joint, owing to the strong ligamentous and muscular support with which it is supplied. They all prognose a great danger of ankylosis, and say that the joint will remain weak, stiff, or insecure for a long time. The case we are considering is interesting in several peculiarities it presents. It approaches what Agnew has described as the external rotatory dislocation. It is peculiar in that the external lateral ligament was not ruptured, and, also, in the position of the dislocated patella, which prevented reduction until it was first reduced. It may be considered exceptional to acquire so free movement in so limited a time; and, while the joint must still be looked upon as, in a degree, insecure, yet it is one which affords free locomotion without aid or inconvenience, and which, we have reason to believe, will become stronger and stronger with use.

Correspondence.

LETTER FROM WASHINGTON.

The Importation of Rags.—The Bill for a New National Board of Health.—A Bill to provide Anatomical Material.—Dr. Bailhache.

WASHINGTON, *December 22, 1884.*

THE vexed question of the importation of old rags has to-day received its final quietus by the issue of a circular from Secretary McCulloch providing that hereafter all old rags shall undergo disinfection before being admitted to entry in this country. The circular was prepared some time since by the chief of the Marine-Hospital Service and the Customs Division of the Treasury Department. It was then submitted to the Committee on Federal Legislation of the Health Conference in session here last week, and finally to the rag importers and paper manufacturers of New York and Boston, and by all parties finally agreed to, with a few verbal changes. At first it was thought that the restriction ought to apply only to rags shipped from infected ports, but the fact that small-pox existed in many foreign ports, a large number of cases being reported in the London hospitals, made it evident that no positive statement could be given that would guarantee the absence of contagious diseases at the port of shipment. It was therefore decided to order the disinfection of all old rags, without regard to the place of shipment or of original collection.

The Public Health Committee of the House have not yet considered the new health bill introduced by Mr. Beach, and it is rumored that it will meet with opposition by the friends of the old National Board.

Dr. A. F. A. King, of the Columbian University, has had a hearing before the District Committee of the House on the bill to legalize the dissection of unclaimed bodies from the almshouse and prison. It is understood that the bill will be favorably reported and its early passage urged.

Dr. P. H. Bailhache, of the Marine-Hospital Service, who has been stationed here since 1879, has been ordered to Philadelphia. During the late war he was a brigade surgeon in Sherman's army, and was taken prisoner and carried South, where with other officers he was kept a long time awaiting exchange. After the war he entered the Marine-Hospital Service, and was stationed at Louisville and Baltimore. He was detailed to represent the Treasury Department at the meetings of the National Board of Health, and is at present an *ex-officio* member of that organization. He has many friends in this city who wish him success in his new station.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, JANUARY 3, 1885.

OVER-TREATMENT IN FEVER.

Professor Nothnagel has recently called attention to the general error which prevails among physicians of regarding fever as a disease *per se*, which is to be treated by any and every remedy that is supposed to influence it. We lately quoted a few sentences from his forcible address before the Society of Physicians of Vienna, and from them our readers may have obtained an idea of its general purport. Although his remarks were evidently intended strictly for his own countrymen, they will apply equally well to his American *confrères*. The high authority of the speaker and the practical wisdom displayed in his remarks can not but win for them the serious consideration of the profession. Nothing can be truer than that Liebermeister's teachings with regard to the antipyretic treatment of fever have made a profound and lasting impression, but it is also undeniable that his method has become more a matter of routine than a judicious application of principles. Professor Nothnagel justly complains that "the employment of quinine has become a reflex phenomenon." In this concise phrase he expresses volumes. We have frequently known the thermometer to prove a stumbling-block, rather than an aid, even to highly intelligent practitioners. Such is the alarm occasioned in most minds by a sudden elevation of temperature that many a man's peace of mind is disturbed when the index registers 101° F., and he cudgels his brains to find an explanation of the phenomenon. This applies particularly to the younger members of the profession, whose thermometers cause them no little anxiety if not positive unhappiness.

The distinguished German teacher calls attention to the important fact that fever is often to be regarded as a salutary condition, in fact one of nature's regulative processes. Moreover, it is not probable that acute febrile diseases are ever shortened by simply diminishing the temperature. The irregular and indiscriminate use of quinine is not only useless, but even injurious, in certain states where as yet the only symptom present is a heightened temperature.

It would be a great mistake to infer that Nothnagel's ideas would, if generally adopted, tend to weaken our confidence in medical thermometry. He is too scientific a physician to encourage any such loose notion as that. He only insists upon the exercise of greater judgment in the use of antipyretic remedies and a more general resort, in the absence of positive indications, to that "expectant" treatment which is so judiciously and happily practiced in his own wards. Such teaching as this is to be regarded as cosmopolitan in its application.

MINOR PARAGRAPHS.

THE CHICAGO CASES OF ACTINOMYCOSIS.

Dr. Murphy's cases of "lumpy jaw" in the human subject, an account of which will be found in the summary which we publish in this issue of the proceedings of the Chicago Medical Society, are remarkable in some respects. From the testimony that was brought out at the meeting, their genuineness seems to us beyond question. In view of the fact that they are the first well-authenticated instances of the occurrence of the disease in man that have been observed in this country, it is a strange coincidence that they both fell under the same gentleman's notice, especially as the histories of the two patients appear to show that they could not have arisen from a common source of contagion. In the light of these cases, it will be the part of wisdom to look upon every case of apparent alveolar abscess as calling for careful investigation.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 30, 1884:

DISEASES.	Week ending Dec. 23.		Week ending Dec. 30.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever.............	19	5	9	4
Scarlet Fever.............	92	20	74	16
Cerebro-spinal meningitis....	6	7	5	2
Measles..................	103	23	130	20
Diphtheria................	62	28	51	35

A Defect in our Ambulance Service, admirable as it is in its general features, seems to consist in an insufficient number of vehicles. It was in great measure owing to this deficiency that a gentleman who lately met with a serious injury downtown—one that shortly proved fatal—was very much delayed in reaching his home. In part, however, the delay was due to his detention, from the best of motives, at the Chambers Street and the New York Hospitals, as is very satisfactorily explained, by the Visiting Committee of the latter institution, in a letter to the newspapers, called forth by unnecessary and unkind criticism.

An English View of the Comma Bacillus.—The "Lancet" learns that Dr. Klein and Dr. Gibbes, of the English Cholera Commission, have made a preliminary report in which they express themselves as entirely at variance with Koch. They deny the invariable presence of the comma bacillus in cases of cholera, and have been unable to inoculate the lower animals.

The Removal of a Tumor from the Brain.—The "Lancet" recently published an account of a unique operation, performed by Mr. Godlee, of London, being nothing less than the removal of a tumor from the cerebral substance. It is reported that the patient has been relieved of most of his pressure-symptoms, and is on the road to recovery.

The Disappearance of a Physician.—More than a week ago Dr. Richard C. Brandeis, a promising and highly esteemed young physician of this city, disappeared, and, at the time of our going to press, no indication of his whereabouts has been found. He was in delicate health, and the fear is entertained that he may have done himself harm while under the influence of a mental aberration.

The late Dr. William Darling.—At a meeting of the faculty of the Medical Department of the University of the City of New York, held December 26, 1884, the following resolutions were adopted:

Whereas, At the end of a long life devoted to the profession of which he was a learned and honored member, William Darling, A. M., M. D., LL. D., F. R. C. S., has been removed from our midst; and

Whereas, It becomes those who have been associated with him as colleagues for many years to give official expression to their sense of the loss they have sustained in his death; be it, therefore,

Resolved, That we, the members of the faculty, fully appreciating his great learning and his wonderful ability as a medical teacher, and believing that the most enduring monument to his memory will be found in the record of his life, here tender to his relatives and friends our heartfelt sympathy in their grief.

Resolved, That these resolutions be spread upon the minutes of the faculty, and be published in the medical journals of this city.

J. W. Wright, M. D., } *Committee.*
W. M. Polk, M. D., }

The Death of Dr. Augustus Van Cortlandt is announced as having taken place on the 24th of December, in his fifty-ninth year. Dr. Van Cortlandt was a graduate of the College of Physicians and Surgeons, of the class of 1862. He died at Mount Vernon, Westchester County, in which neighborhood he had lived for a number of years past.

The Death of Dr. George H. Atkinson, of Brooklyn, took place last Saturday, as the result of blood-poisoning contracted in the practice of his profession. Dr. Atkinson was a graduate of the Long Island College Hospital, of the class of 1873, and a member of the Medical Society of the County of Kings and of the Brooklyn Pathological Society. He took a prominent part in the proceedings of those societies, and was regarded as in every way a most valuable member of the profession.

The Death of Dr. William H. Thorndike, of Boston, took place on Friday of last week at his home in that city. He was a native of Massachusetts and a graduate of Harvard, from which institution he took his medical degree in 1848. He was widely known and highly esteemed as a practitioner. He was fifty-nine years of age at the time of his death.

The Late Dr. Cyrus N. Nutt, of New Albany, Indiana.—At a special meeting of the Floyd County Medical Society, held December 23, 1884, for the purpose of taking suitable action in regard to the death of its President, Dr. Cyrus N. Nutt, the following resolutions were adopted:

Resolved, That in his death this society has lost one of its most efficient and devoted fellows, the medical profession an honorable and faithful member, and this community an upright Christian gentleman.

Resolved, That we will ever cherish the memory of our late associate and brother, whose example of fidelity to the science of medicine and uprightness of character should stimulate us in the discharge of our professional and social obligations.

Resolved, That we tender the surviving members of his family an expression of our sympathy in this their deep affliction.

Resolved, That this society attend the funeral ceremonies as largely as possible.

Resolved, That a copy of these resolutions be presented to his family, and be published in the "New Albany Ledger," "New York Medical Journal," "Bloomington Progress," and "Indianapolis Journal."

The Death of Dr. Theodor Meurer, of New Albany, Ind., is recorded by the "Ledger," of that place, as having taken place on the 24th of December, 1884, in his sixty-third year. The deceased was a native of Saxony, but had practiced in New Albany for twenty-eight years. From the "Ledger's" account we gather that he was a most esteemed and successful practitioner.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 21, 1884, to December 27, 1884:*

McParlin, Thomas A., Lieutenant-Colonel and Assistant Medical Purveyor. Granted leave of absence for three months, on surgeon's certificate of disability. S. O. 301, A. G. O., December 24, 1884.

Johnson, Henry, Captain and Medical Storekeeper. Directed, in addition to his present duties, to perform the duties of assistant medical purveyor in New York city. S. O. 301, A. G. O., December 24, 1884.

Wales, P. G., First Lieutenant and Assistant Surgeon. Relieved from duty in the Department of Colorado and ordered to the Department of Arizona. S. O. 128, Division of the Pacific, December 17, 1884.

Society Meetings for the Coming Week:

Monday, *January 5th:* New York Ophthalmological Society (private); New York Medico-Historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Chicago Medical Society; Boston Society for Medical Improvement (annual); Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *January 6th:* New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Broome (quarterly) and Niagara (semi-annual—Lockport), N. Y., Hudson (Jersey City) and Union (quarterly), N. J., Androscoggin (annual—Lewiston), Me., and Chittenden, Vt.

Wednesday, *January 7th:* Medical Societies of the Counties of Richmond (Stapleton), N. Y., and Penobscot (Bangor), Me.

Thursday, *January 8th:* Harlem Medical Association of the City of New York; Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Medical Society of the County of Fulton (annual—Johnstown), N. Y.; South Boston, Mass., Medical Club (private).

Friday, *January 9th:* Yorkville Medical Association, New York (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *January 10th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Obstetrical Society of Boston (private); Worcester, Mass., North District Medical Society.

The Chicago Medical Society.—It is expected that the following papers, which were to have been read at the last meeting, will be read at the next regular meeting, to be held Monday evening, the 5th inst.: "Diphtheria, with Remarks on the Germ Theory, and Report of Cases under Alcoholic Treatment," by Dr. G. H. Chapman; "Manganese as an Emmenagogue," by Dr. F. H. Martin; and "The Bacillus of Syphilis," by Dr. Josef Zeisler.

OBITUARY NOTES.

Professor William Darling.—Dr. Darling, for many years the professor of anatomy in the Medical Department of the University of the City of New York, and in the Medical Department of the University of Vermont, died on Christmas, at his residence in the former institution. He was in the neighborhood of eighty years of age, but probably his precise age is not known, as he was very reticent in regard to his personal affairs, and it is understood that none of his relatives survive him.

William Darling, M. D., LL. D., F. R. C. S., was born in Berwickshire, Scotland, and received his early education in Edinburgh. He came to New York before he had attained his majority, and became a pupil of the late Dr. Valentine Mott in 1834. In 1842 he took the degree of doctor in medicine at the Medical Department of the University of the City of New York, and was shortly appointed prosector in surgery, which office he held until 1845, when he was made demonstrator of anatomy. After having held the latter position for eight years, he served twelve years as an assistant physician at the quarantine station and at the State Immigrants' Hospital. In 1856 he went to London and took the degree of M. R. C. S.; that of F. R. C. S. he received ten years later. In 1866 he was appointed professor of anatomy in the Medical Department of the University of the City of New York, and in 1873 he received the same appointment at Burlington. He held both these positions at the time of his death. In 1877 he was elected an honorary member of the Rhode Island Medical Society and a foreign correspondent of the *Société d'anthropologie*, of Paris.

Dr. Darling had a peculiar gift for teaching descriptive anatomy, which he did largely by methods of his own contrivance. As a man, he was very peculiar, but the few who were admitted to his friendship were very fond of him. A well-known New York surgeon was once heard to say that it was a rare treat to roam about London in company with Darling, who knew every inch of the British metropolis. One of his hobbies was that of living on a ridiculously small sum per diem, and he thus amassed a considerable fortune. He died a bachelor.

Letters to the Editor.

TRISMUS NASCENTIUM AND DEPRESSION OF THE OCCIPITAL BONE.

Washington, D. C., *December 26, 1884.*

To the Editor of the New York Medical Journal:

Sir: In your issue of the 20th inst., among the proceedings of the Clinical Society of the New York Post-Graduate Medical School and Hospital, I notice the following:

> "Dr. H. G. Lyttle presented a child, *two months and six days old*, with a marked depression of the occipital, and overlapping of the parietal bone. The child had slight convulsive movements of the hands and rolling of the eyes, with a disordered condition of the stomach and bowels. Dr. J. F. Hartigan had reported, in the 'American Journal of the Medical Sciences' for January, 1884, forty-nine cases of trismus nascentium as being due to this cause. Dr. Lyttle presented this case to show that the displacement of the occipital bone might occur without producing trismus."

I regret if I have failed to make myself sufficiently clear in the article referred to, and in the subsequent enlarged publication by Bermingham. All authors agree that the disease occurs in the first days, certainly within the first month, of infantile life. For instance, of the forty cases reported by J. Lewis Smith, in thirty-seven the patients were seized within eight days; of the eighty-eight by Stadfeldt, only one survived the tenth day; Matuszynski's twenty-five were all seen before the ninth day; one hundred and seven of Clarke's patients died before the ninth day; while, in my table of two hundred and twenty-nine deaths, ninety per cent. were of children under ten days, the remainder ranging within thirty days.

Now, as the disease is not limited to this age, and as the course of the symptoms varies at a later age, it became necessary to draw a line of demarkation, as it were, or to divide it into two forms, the acute and the chronic. The first, of course, is familiar to all. Coley best describes the second, as follows: "The chronic variety commences with dysentery, and is attended with a cold, exsanguineous state of the skin, whence it has been popularly denominated the 'white locked-jaw.' This form of the disease is tedious, and attended, as when dysentery is uncomplicated, with rapid emaciation, convulsive twitchings, etc., which renders ordinary treatment insufficient, and terminates in death."

Trismoid is the suggestive and appropriate appellation given by Dr. J. Marion Sims to this form, and, as I have found, it is a condition even more amenable to postural treatment than the acute disease; and the reason, perhaps, is, that the further development of the dura mater resists the pressure in part, thereby modifying the symptoms, or the medulla oblongata becomes more compact and tolerant after the first month, or both. Dr. Lyttle's case, therefore, is one of trismoid, and, instead of disproving, it only confirms our theory. This chronic form can be developed any time within six months, or before the lambdoidal commissure is closed, or, as I have had frequent opportunity to confirm, as a sequel of capillary bronchitis and like exhausting diseases. The little patient may be recovering from the primary trouble, but the occiput, having sunk in as a consequence of cerebral waste, becomes impacted, and, unless this new complication is detected early by the physician, and promptly corrected, his labors will be in vain.

The following extract from my published work is especially applicable where the lambdoidal commissure is wide from deficient ossification: "It is not always necessary to the development of the disease that displacement should be marked or visible. In either case, from continued decubitus unpleasant symptoms may arise, which subside when the child is taken up—the pressure being thereby relieved—only, however, to recur when the infant is again laid down."

Finally, if any one doubts the correctness of occipital displacement as the cause of trismus nascentium, let him but make pressure on the occiput with the finger, as I have repeatedly demonstrated, and he can produce the convulsions at will.

J. F. Hartigan, M. D.

PITTSBURGH MEDICAL SOCIETIES AND PITTSBURGH SURGERY.

Pittsburgh, Pa., *December 18, 1884.*

To the Editor of the New York Medical Journal:

Sir: A Pittsburgh Obstetrical Society has lately been organized, with a membership of thirty. The County Medical Society has a membership of one hundred and forty. At the last meeting of the latter society two successful ovariotomies were reported by Dr. McCann, of this city, which elicited a discussion on drainage. Dr. R. S. Sutton expressed his views on this subject, approving of drainage in all cases in which there was any prospect of subsequent oozing. He stated that, in his last nine ovariotomies, done in his private hospital, he had drained in every case, and that eight of the patients had recovered. Three of the operations were double ovariotomies, and one of them included supra-vaginal amputation of the uterus. All of these three patients recovered. The single death was after a Tait's operation, done for menstrual epilepsy. The patient died three weeks after the operation, the cause of death being either septicæmia or typhoid fever. Successive crops of rose spots, slight bronchitis, slight diarrhœa, delirium, coma, and enlargement of the parotids were the symptoms. Consulting physicians considered it a well-marked case of typhoid fever.

Yesterday I witnessed a laparotomy at Dr. Sutton's private hospital. The patient was a lady who had suffered for three years with an artificial anus, the result of a direct inguinal hernia. Dr. Sutton opened the abdomen in the median line, detached several loops of intestine from the abdominal ring, resected the gut at two points wide apart, and closed the abdomen, leaving in a long drainage-tube applied in the manner he had advocated at the County Society. No spray was used, but the most absolute cleanliness was enforced. To-day (the operation having been done yesterday at noon) the temperature remains normal, not having risen a fraction of a degree. A full report of this interesting case, probably the first in the United States for artificial anus, will be forthcoming as soon as its result is determined. The patient upon whom Dr. Sutton first performed resection of the intestine, in the spring of 1883, is still living.

George B. Fundenberg, M. D.

FRACTURE OF THE FLOOR OF THE ACETABULUM.

2101 Calumet Avenue, Chicago, *December 26, 1884.*

To the Editor of the New York Medical Journal:

Sir: The paper of Dr. Gay, read before the New York State Medical Association, and published in your issue of the 20th of December, induces me to report a case of fracture of the floor of the acetabulum with displacement, which was the subject of an impromptu clinic some years ago. It is probable that this clinic will be remembered by many students who were present.

The patient was a lad of about fifteen years of age, who had been thrown from a horse, striking the trochanter major upon a frozen lump of earth. The accident had occurred some weeks previously. On examination, there was found marked flatness of the trochanteric region, but neither eversion, inversion, nor shortening. Flexion and extension were free, but somewhat limited. Rotation, abduction, and adduction were also free, but very limited. There was, however, sufficient range of rotary motion to enable me to estimate the radius of the circle the limited arc of which the trochanter described.

Relying on the manner of occurrence of the accident, and on the above-enumerated signs, I diagnosticated fracture of the floor of the acetabulum with inward displacement, and remarked to the class that an intra-pelvic examination with the finger in the rectum would test the correctness of the diagnosis. I then made this test-examination, and readily detected a prominent inward bulging of that portion of the pelvic wall corresponding to the floor of the acetabulum. Two of the representative members of the class were invited to participate in this last part of the examination.

Moses Gunn.

Proceedings of Societies.

CHICAGO MEDICAL SOCIETY.

Meeting of December 15, 1884.

The President, Dr. D. A. K. Steele, in the chair;

Dr. Liston H. Montgomery, Secretary.

Actinomycosis in the Human Subject.—Dr. John B. Murphy read a paper on this subject, in which he first gave an interesting summary of the main literature of the disease, with references to twenty-eight cases of its occurrence in the human subject, and then reported two additional cases, as follows:

Case I.—June 28, 1884, he was called to see Mary M., twenty-eight years old, who stated that two weeks before she had begun to suffer with severe toothache in the left side of the lower jaw. Shortly afterward a swelling appeared in the throat, with great pain in swallowing and inability to open the mouth. The pain and swelling disappeared after her face and neck had been poulticed for several days. A few days afterward she was again attacked with toothache, together with an indescribable ringing in her ears. A swelling appeared in her mouth, on the outer side of the jaw, the pain grew more severe, and the swelling continued to enlarge up to the time that the speaker was called. On examination, he found a swelling behind the angle of the jaw, on the left side. The patient could not open her mouth more than three quarters of an inch, and had eaten nothing for two days. The left tonsil was much enlarged, and filled most of the pharynx; a pale-yellow spot marked the spot where an abscess was about to break. A large quantity of pus was set free with a lancet. She made a rapid recovery, and was about in a few days. She appeared to remain comparatively well until the 8th of July, but did not regain her strength, and occasionally suffered with toothache. A small swelling now appeared on the left side of the neck, below the jaw, accompanied by some pain and inflammation, and a few days afterward she again presented herself for treatment. The lump was about as large as a walnut, and the surrounding tissue was considerably indurated. Several carious teeth were noticed in the mouth. The "bunch" fluctuated and seemed to contain considerable pus, but only a small quantity was discharged when it was punctured, not exceeding a few drops and having a creamy appearance. A drainage-tube was inserted and an antiseptic dressing applied. On her return, two days later, the drainage-tube was removed, and about twenty drops of thick, creamy-looking discharge oozed from the opening. It contained peculiar sulphur-colored granules, which were recognized with the aid of the microscope as actinomycetes. A number of specimens were then prepared and shown to Dr. Fenger, Dr. Bridge, and Dr. Kerber, who agreed with the speaker as to their nature. The patient was under observation for ten days longer, and each day new specimens were procured. As the swelling and induration continued to increase, and as the patient was sinking rapidly, she was advised to enter the City Hospital, and Dr. W. T. Belfield was asked to examine the case. He reported that the pus contained actinomycetes.

After a few days of preparatory treatment, the growth was removed, with the assistance of Dr. Fenger, Dr. Belfield, and Dr. W. P. Verity. An incision was made, extending from the ear to the clavicle, parallel with the sterno-cleido-mastoid muscle. A mass of succulent tissue was observed, interspersed with pus and gold-colored granules, penetrating the surrounding tissue. It was all removed with a knife and a sharp spoon. In some places this tissue penetrated from half to three quarters of an inch. A carious tooth was removed, and a probe was passed down from the alveolus into the wound. A small portion of the angle of the jaw was chiseled away, and the alveolus and the canal were thoroughly scraped. After the wound had been cleansed, a tampon of iodoformed gauze was inserted into the alveolus, drainage-tubes were placed in the wound, and the edges were approximated with silk sutures. Primary union took place, and the patient made a rapid recovery. She gained over twenty-six pounds in weight within five weeks, and was now in good health.

Case II.—Thomas C., eighteen years old, consulted the speaker September 3, 1884, and stated that, on the previous Christmas, when he was living in Ireland, he had begun to suffer with severe toothache in the lower jaw, on the right side, which lasted about two months. Then a swelling appeared at the angle of the jaw, and the pain subsided. Since that time the swelling had enlarged somewhat, and he had had more or less pain. On examination, Dr. Murphy found a carious tooth, and the swelling showed well-marked fluctuation. It was as large as a pigeon's egg and situated below the jaw. There was a little induration of the surrounding parts. It was punctured, and about ten drops of thick, creamy pus escaped, of a consistence and color that attracted his attention, so that he made a microscopical examination of it and found that it contained radiating threads. Not being satisfied with this examination, he asked the patient to call again, which he did in two days. Pressure on the swelling then caused a small amount of pus to exude, and this was found to contain perfect actinomycetes. Specimens were shown to Dr. Fenger and Dr. Bridge, who recognized the parasite. The sinus was scraped out, and in ten days the parts were completely healed.

The patient was seen four weeks later, and there was no evidence of a recurrence of the disease. About six weeks later the man again consulted the speaker in regard to a swelling in the same locality, somewhat larger than the first. It was opened, and a drainage-tube was inserted. The same characteristic pus was found, and it was examined by Dr. Fenger, Dr. Bridge, Dr. Belfield, and Dr. Kerber, all of whom recognized actinomycetes. The speaker had not seen the man since, but had learned that the opening had healed.

It would be seen from the summary the speaker had given in his preliminary remarks that in only one of the cases that had ended in recovery had the disease begun in the lower jaw. Some of them appeared as diffuse phlegmons, some as chronic burrowing abscesses, and others as chronic suppuration of lymphatic glands, and, on opening the swellings, they were found to consist mostly of a mass of granulations, with but little pus, although Rosenbach had observed a moderate amount of matter in a few of his cases. Of the fatal cases, but two had had their origin in the lower jaw, the others originating in the internal organs, such as the lungs, the intestines, the oviducts, etc., and presenting no other symptoms than those of chronic suppurative inflammation, with little pain and no fever, but great emaciation. At the autopsies, the pus showed the characteristic granules, and the affected organs presented a honeycombed appearance, the spaces containing projecting masses of pale-yellow granulations and but very little pus.

The disease was very chronic in its course, its shortest duration, in the fatal cases, having been seven months, and the longest twenty months. The patients usually died of exhaustion or pyæmia. Various metastases might appear, either to the heart, to the lungs, or to the intestines. Considering the great space invaded, the comparative freedom from pain and fever was specially noteworthy. In the matter of diagnosis, it was important to notice that the disease usually had its origin in the lower jaw, whence it extended to the neck, the vertebræ, and the thoracic cavity; that it might have its origin in one of the internal organs; that, although the fistulæ extended deep and in all directions, their boundary was very sharp and the surrounding tissue but little disturbed, this being characteristic of the granulations; and, above all, that the only pathognomonic sign was the sulphur-colored granule, which, under the microscope, presented its characteristic radiating threads with club-shaped ends.

As to the prognosis, the external forms of the disease showed seventy per cent. of recoveries, while the internal forms showed only eighteen per cent. The average mortality was sixty per cent. The treatment would depend upon the situation of the disease. When it was local, it was sufficient to open the mass and scrape and drain the cavity, or merely open it and wash it out with an antiseptic solution, as had been done by Rosenbach n his five successful cases. If the deposit was of any great extent, its radical removal was necessary. When the disease invaded the internal organs, we were completely at its mercy, and could only treat the symptoms as they arose.

Dr. Christian Fenger opened the discussion, during the progress of which a number of microscopic specimens showing the actinomycetes were inspected. Dr. Fenger had seen the two patients whose histories had been related, but could add nothing to what had been said of their cases. Rosenbach's treatment might answer in slight cases, but the course of the disease was chronic, and it was often impossible to get at the deposit, even when its extension from the mouth was in the direction of the muscles of the neck, and especially was this the case when the swelling first formed at the angle of the jaw and the parasite got into the veins, resulting in metastases to the lungs or the heart (and not on the outside of those organs). The fungi were too large to pass through the capillaries of the lungs, so that in case of such metastases the patient was lost. If they got into the bronchi, or into the anterior or posterior mediastinum, not much could be done by medication, and they were beyond surgical treatment; hence a fatal result would follow. He would not hesitate to perform a radical operation wherever there was a sinus.

The President congratulated the author of the paper on the fact that he had been the first in this country to discover the disease in the human subject. He had been under the impression that the death-rate was about fifty per cent.

Dr. Tilley questioned the correctness of the diagnosis in the two cases that had been related. He had heard that an attempt had been made to inoculate a calf with the matter taken from one of the patients, and that it had failed. If that was the case, the diagnosis was not proved. Then, too, he would like to be assured that the specimens shown were really taken from these patients, and not from the bovine affection. He had seen the second patient after he had passed out of Dr. Murphy's hands, and recovery had followed within a fortnight after a tooth had been extracted. Why were not the diseased teeth extracted in both cases at the outset? He had no desire to throw cold water on the enthusiasm aroused by the alleged discovery, but he did not wish to see the society take untenable ground.

Dr. Fenger replied that there was no longer any doubt as to the nature of the cases; there was the convincing proof of the microscope. The fungi were large, and not the contemptible micrococci. He cited a case in which the tooth was extracted at once, and yet the patient lingered for fourteen months, and died of metastases to the lungs and the vertebræ. Even it a patient seemed to have been cured, he should present himself to his physician every month for at least six months, that it might be seen if the disease showed any tendency to return.

Dr. W. T. Belfield testified to the accuracy of the diagnosis in the first case, which he himself had seen, and he had no doubt as to the correctness of Dr. Murphy's diagnosis in the second case; that gentleman knew what he was about, and had treated his patients correctly. He thought a misapprehension was being spread abroad with regard to the actinomycetes; they were not minute germs, but plants that could be seen with the naked eye. The cases reported by the writer of the paper were the first that had been observed and recorded accurately outside of Germany. Mr. Treves, of England, had thought that he had recognized a case, but the microscope had disproved his diagnosis. Dr. Belfield then showed a large piece of the jaw-bone of a cow that had died of the disease. Having been permeated by the parasite, it was very soft, so that it could be cut with a knife. The cow's head had been swollen to nearly double its natural size, the enlargement being chiefly of the bone itself.

Dr. Tilley disclaimed any intention of throwing discredit on the microscope as a means of diagnosis, or of questioning Dr. Murphy's skill; but he was sorry that he had not seen the patients. The fact that the second one recovered so quickly had given him the impression that the disease could not be so very dreadful. He would repeat that it was a pity the teeth had not been extracted early, and he thought Dr. Fenger's remarks were in favor of the view he himself took.

Dr. C. T. Parkes had seen the second patient after Dr. Lydston had extracted the tooth, but he had expressed no opinion as to the diagnosis. In all such cases the microscope ought certainly to be resorted to to establish the diagnosis, but it should be remembered that an alveolar abscess might at times prove a very formidable affair.

Dr. Belfield said that, if these were not cases of actinomycosis, then scarlet fever was not scarlet fever on anybody's diagnosis. The disease spread by continuity, and perhaps might be analogous to anthrax. Anthrax was trifling if we cut it out at once, and so was actinomycosis, but, if the latter was allowed to spread to the neck, the chest, or the vertebræ, it became not only dangerous but incurable.

Dr. Murphy, replying to some of Dr. Tilley's criticisms, said that one of the specimens from the case of the boy had been somewhat impaired by having been put into glycerin. In regard to the test by inoculation, both a calf and a horse had died within six weeks after having been inoculated with the pus. It made not a particle of difference what Dr. Tilley believed, or whether the teeth had been pulled out or not; the disease was certainly actinomycosis—the same disease, historically, clinically, and classically, as had been described by Rosenbach, and as such it had received proper surgical treatment by opening, drainage, etc. The "germs" were easy of recognition, and were herewith presented.

Dr. Tilley deprecated the introduction of any degree of animosity into the discussion, but it was still a pity, he thought, that the teeth had not been extracted in the early stage of the affection.

Dr. G. Newkirk thought that the limited number of cases reported cast some doubt upon the diagnosis, although it was true that successful inoculation upon the lower animals, together with the microscopical appearances, made it very strong. It would be a pity to extract a tooth for every swelling of the jaw, for ninety per cent. of them could be cured by simple measures.

Dr. Fenger remarked that it was an error to suppose that these cases were the first that had been reported outside of Germany, for an Italian physician had reported a case that had turned out to be pneumo-actinomycosis.

Dr. J. J. M. Angear called attention to the desirability of the members' knowing, with regard to the particular slides shown, which of them represented specimens from the cases reported, and which those that had been taken from animals.

Dr. William P. Verity corroborated Dr. Murphy's statements in regard to the fungi.

Dr. Belfield then showed a number of specimens, and compared them with the plates in Ponfick's monograph, which everybody could examine to his own satisfaction. With reference to alveolar abscesses, a fungus might be present in them, or the actinomyces might be found in them, but no one had ever looked for it, and he doubted if the pus in one case in a thousand, or one in ten thousand, was ever examined.

Dr. Parkes asked if the incipient symptoms of actinomycosis were as severe as those of alveolar abscess.

Dr. Belfield thought the actinomyces had never been found to have effected a lodgment in a healthy human being or a healthy animal, but it had been found in the mucus of the tonsils in hogs.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of December 22, 1884.

The President, Dr. Daniel Lewis, in the chair.

The Physiological and Therapeutical Effects of the Coca-Leaf and its Alkaloid was the title of a paper read by Dr. William Oliver Moore.

Since the days of the discovery of the general anæsthetic effect of ether nothing had so startled the medical world as the announcement, by Dr. Carl Koller, of Vienna, but three months since, of the wonderful local anæsthetic power of the alkaloid of a hitherto obscure plant. The quickness with which the fact was received, and the promptness of physicians to verify his statements, and to go even farther than he anticipated, was a marvel. The universal enthusiasm shown and the invariable good results obtained from the use of the drug went to show that it was one of those substances that had "come to stay." The writer's first aim will be to show the uses of the *coca-leaf* in substance, and he would afterward treat of the alkaloid by itself.

Coca had been in use in South America from the earliest times, for there was no historical record as to when it came into use, or who first discovered the properties of the leaves; but, probably, like cinchona, it had been noticed by the astute aborigines. In Peru, under the dynasty of the Incas, it was considered as a representation of the Divinity, and the fields where it grew were venerated as sanctuaries. Coca-leaves were placed in the mouths of the dead to secure their favorable reception into the other world. If a mummy was met by a traveler, a coca-leaf was placed in its mouth. Coca-chewing dated from the introduction of the plant, and when the Spaniards made the conquest of Peru they were alarmed at its prevalence and the superstitions regarding this insignificant leaf—so much so that a decree against its use (October 18, 1569) was declared by the Second Council of Lima. At the present day the laborers of the whole of South America continued the use of coca.

The leaf was obtained from the *Erythroxylon coca* plant. *Erythroxylon* referred to the red color of the wood of some of the plants of this group; *coca* seemed to be derived from the word *khoka*, signifying *the tree* or *the plant*—that is, *the* specially favored one.

The first botanist to treat of the plant seemed to have been Monardes (1569); after him Clusius (1605). The first specimen received in Europe was sent there by Jussieu (1750), who gave it the name it still bore. Lamarck adopted it in his "Encyclopædia." The leaves were the part used in medicine and in which the alkaloid resided. They were peculiar in the disposition of their veins—viz., by the side of the middle fiber two longitudinal lines were to be seen jutting out, which separated at the base of the leaf, and met again at the point, each describing a slight curve. The tree was cultivated, the seeds being sown in December and January, and attained its full height at the end of five years. The first crop of leaves was picked at the end of a year and a half. The duties upon coca in Peru amounted yearly to one hundred thousand dollars. It had been estimated that coca was used by ten millions of the human race (betel by one hundred millions, chicory by forty millions, coffee by one hundred millions; three hundred millions ate or smoked haschisch, four hundred millions used opium, five hundred millions used tea, and all known peoples of the earth were addicted to tobacco). The *coquero* (chewer) took coca three times a day—before beginning his work, about the middle of his task, and some time after completing his labor, mixing with each *acullico* (ball or quid) some alkaline substance. Many of the natives would not undertake their labors without their pouch of coca-leaves. That coca-chewing might be carried to excess was no doubt true, but the opinion of those who had studied the matter thoroughly was that the effects on the system were harmless, and that, besides having a stimulant action, it also acted in a nutritive way. The fact that the *coquero* could do without food for hours might be explained, now, in the light of the wonderful anæsthetic properties of the plant, by its benumbing action on the mucous membrane of the stomach, abolishing thus the *sense of hunger*. Coca was second only to alcohol in its food-replacing power. Mantegazza,* who had experimented upon himself, stated that an infusion of coca would increase the action of the heart fourfold. By taking an infusion made from three drachms of the leaves, increased heat of the skin, palpitation of the heart, flashes, headache, and vertigo were produced, while the pulse rose from seventy to one hundred and forty. A feeling of increased strength was produced, with a desire to exert himself, accompanied by a roaring in the ears. He took as much as eighteen drachms of the infusion, and was able to abstain from food for forty hours. The meals then taken were very well digested. From his experiments he drew the following conclusions:

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* "Sulle Virtu Igieniche e Medicinali della Coca," p. 76, Milano, 1859.

1. In large doses, coca increases the animal heat, increasing the frequency of the pulse and respiration.

2. In a dose of three to four drachms of the infusion, it excites the nervous system, increasing the desire for muscular action; and afterward has a calming effect.

3. In very large doses, it causes delirium, hallucinations, and congestion of the brain.

Dr. Isaac Ott,* after chewing the leaves, obtained nearly the same results; after chewing sixty grammes during nine hours, he found dilatation of the pupil, frontal headache, drowsiness, increase in the pulse and temperature, and decrease in the amount of chloride of sodium excreted from the kidneys.

It had been found that coca caused slight excitation of the stomach, with an increase of the gastric and intestinal secretions, which was temporary, and was followed by a dryness and anæsthesia of the mucous membrane, and it was this fact that made it of great use in certain painful affections of that organ. Coca would produce sleep when opium had failed, if given in small doses, repeated; in hypochondria and melancholia, its action in promoting cheerfulness was marked. Dr. J. Leonard Corning, in "Brain Exhaustion," says: "It is the remedy *par excellence* against worry." Spanish-American physicians stated that its effect was speedy and certain in inertia uteri. We were informed that the natives used an infusion of coca-leaves for cholera morbus with marked benefit, cramps and vomiting speedily yielding. It had also proved of value in asthma. In cholera, might we not have in this agent a remedy of potent influence? Above all, it acted as a tonic, and was called by Fuentes, of Lima, "the most tonic plant in the vegetable kingdom." Next to its general tonic effect, the most brilliant results had been in the hands of the laryngologists. Dr. Charles Fauvel, of Paris, was one of the first to use coca internally for the tonic effect on the vocal cords and on the system generally. He was led to use it by the repeated statements of an old priest, who said that, whenever he had a long service to perform, he took it for ten days before, always with the effect of increasing the volume of his voice. For the past ten years Dr. Fauvel had used it, both internally, in the form of the *vin Mariani*, and also by local applications to the pharynx and larynx in spray or by brush, in the form of a fluid extract, or, more recently, of a concentrated non-alcoholic preparation more of the nature of a cordial (prepared by Mariani & Co.). This Dr. Moore had tested, and had found to be very efficient, containing a large percentage of cocaine. Cocaine hydrochlorate was furnished Dr. Fauvel by the same manufacturers in 1882. Fauvel calls coca the "tensor *par excellence* of the vocal cords."

Dr. Elsberg, of this city, had used these preparations for nearly as long a time, both given internally and locally. He wrote: "I received, in August last, some '*chlorhydrate de cocaine*' from Mariani & Co., and, on October 30, 1884, removed by its means an intra-laryngeal papilloma from the anterior commissure with ease."

Mackenzie and Lennox Browne, of England, had also used the wine of coca with great benefit, both locally and generally. It was strange, therefore, that the *alkaloid* should not have been resorted to universally till after Koller's discovery of its effect upon the eye.

In the opium habit, the wine of coca and all of the various preparations had been used with marked success. Dr. Palmer, of Louisville, Kentucky, who had written much on the subject, said, after speaking of its virtues: "My only desire is to direct professional attention to the administration of coca in the treatment of the opium habit."

Dr. Sigmund Freud, of Vienna, had also used coca with good effect in both the opium and alcohol habits, and thought it was antagonistic to opium. In this direction further experiments were necessary. In short, coca was a tonic of great value in all asthenic conditions; it was also an antispasmodic; and, next to alcohol, a food-replacing agent of immense value. The *vin Mariani* seemed to have the most potent influence, and Dr. Moore had reason to believe that its effect was better than that of other preparations, owing to an alkali having been added, the makers having taken this point from the South Americans, who always added some alkali to their quid of leaves.

The alkaloid of the coca-leaf was called *cocaine*, or *cocaina*, being named so by Niemann, of Goslar, a pupil of Wöhlers, in 1860, although Gadecke first isolated it and called it erythroxyline.

The process of extraction was slow but simple, the crystallization being the most difficult part. The crystals belonged to the monoclinic system, had a bitter taste and a strong alkaline reaction, melted at 98° C., and were soluble in ether, in alcohol, and in 704 parts of water at 12° C. The chemical formula was $C_{17}H_{21}NO_4$. It united with acids, forming salts which crystallized, and were soluble in alcohol but not in ether.

The salts that had been made were the hydrochlorate, the borate, the sulphate, the nitrate, the oxalate, the tannate, the salicylate, the citrate, the hydrobromate, and the tartrate, besides certain double salts. An oleate had also been prepared. Ecgonine and hygrine were also found in the leaves. Reveil, in 1860, closed an article on coca with this prophetic statement: "This substance will some day have an important position in therapeutics."

Given in small doses to warm-blooded animals, it stimulated the nerve-centers—first the cerebrum, and then the medulla oblongata and the cord; it caused vertigo and loss of equilibrium, seeming to have an action on the semicircular canals. Respiration was hastened and labored, and, in fatal cases, the breathing stopped before the heart's action. In moderate doses it raised the arterial pressure, dilated the pupil, and impaired the accommodation.

Frogs were more susceptible than warm-blooded animals; a fatal dose for a dog* was from three to five grains.

Dr. Alexander Bennett,† of England, in 1874 found, after experiments on over one hundred animals, the following: 1. In small doses, cerebral excitement, with partial loss of sensibility. 2. In large doses, cerebral excitement, complete paralysis of sensibility, tetanic spasms, and death. 3. It paralyzes the entire posterior column of the spinal cord, also the entire system of *peripheral sensory nerves*; but the anterior columns of the cord and the peripheral motor nerves are not paralyzed.

The internal dose of cocaine for man was from a quarter of a grain to three grains; the effect was not cumulative. Schroff,‡ in 1862, first experimented on man, and found that in large doses it caused vertigo, slight deafness, and disturbance of memory and of co-ordination of thought. Fronmüller,# by giving doses up to five grains, was able to produce sleep.

Ploss reported a case of a man who took twenty-two grains of cocaine at one dose, with suicidal intent, yet he survived, with only slight signs of intestinal irritation with anuria for one day. This was undoubtedly an exceptional case, or else the alkaloid was impure.

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* "Medical Record," 1876.

* Danini, "Ueber physiol. Wirk. und therap. Anwendung des Cocains."

† "British Medical Journal," April 18, 1874.

‡ "Zeitschrift für Wien Aerzte," Nos. 30–34, 1862.

# "Prag. Vierteljahrsschrift," 79–109, 1863.

On October 20th Dr. Moore made experiments hypodermically with a solution of cocaine hydrochlorate on his own person. The solution was prepared from crystals made by Foucar & Co., of this city. It was neutral, as proved by testing with litmus-paper. This precaution was taken so that no abscesses would occur. His first injection contained one grain and a half of the salt, and was made on the outer side of the arm, midway between the shoulder and the elbow. In four minutes the skin for a distance of two inches about the site of puncture was anæsthetic, and the surface temperature reduced by one degree. It was also noticed that the radial side of the forearm was numb, and there was exhilaration with tinnitus aurium; in fact, he felt as if champagne was being absorbed. After half an hour, dilatation of the pupil was noticed; the pulse rose ten beats a minute, and became fuller and stronger, as proved by sphygmographic tracings; and the general temperature was slightly raised, with an increase in the frequency of the respirations.

No new symptoms appearing, in seventy-five minutes he injected another grain (making the second), this being thrown under the skin just below the knee, over the site of the internal saphenous nerve. In five minutes the skin near the puncture was numb for a distance of two inches in all directions, and it was also noticed that the skin of the whole inner side of the leg, down to the great toe, was numb and painless, showing, for the first time in his experience, that the parts supplied by the nerve over which the injection was made were affected. Excitation was more marked, the pupils were more dilated, the accommodation was more impaired, there was a feeling of intense comfort and a desire to recite, the general temperature was now 1° higher than before the first injection, and the pulse was strong and full at 85.

After one hour most of these symptoms were less, and he then injected one grain more (the third) into the deep tissue of the arm, passing the needle in perpendicularly. In this case no surface anæsthesia was found, and no loss of temperature at the point of injection as before; all the parts of the arm and forearm below the point of injection were numb and very much blunted to pain; this came on in ten minutes.

In short, during eight hours he injected three grains and a half of cocaine, with the effect of increasing all the symptoms already mentioned, with unsteadiness of gait, beautiful hallucinations, irregular contraction of the muscles of the extremities, coming on at irregular intervals, lasting during a space of thirty minutes; these occurred twenty minutes after the last injection. The mind was clear and speculative, the paresis of accommodation was now complete, sleepiness then came on, and, after four hours of broken rest, he awoke, feeling relaxed and melancholy, and might have exclaimed, with Cowper, "I awake, like a toad out of Acheron, covered with the ooze and slime of melancholy." This depressing effect was not usually noticed.

These experiments, made in October, he was glad to see, had been verified by Dr. Hall and Dr. Halsted (*vide* "N. Y. Medical Journal," Dec. 6, 1884). Dr. N. J. Hepburn[*] had obtained (October 16th) nearly the same results.

Moreno,[†] in 1868, showed that local injections abolished reflex movements; and von Anrep,[‡] in 1880, that sensibility of the skin was abolished by hypodermic injections, and that the tongue became numb when touched with strong solutions; he also noticed that the pupil dilated if solutions were placed on the conjunctiva; strange to say, although on the verge of a discovery, he did not notice the conjunctival anæsthesia.

Although since 1860 it had been known that a benumbing effect was produced on the tongue when cocaine, either in substance or in solution, was placed upon it, it remained for Koller, in 1884, to make use of this well-known fact. On the 26th of November Dr. Moore had received the following letter from Dr. Koller:

> "VIENNA, *November 11th.*
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> "DEAR SIR: Your letter received. With pleasure I notice that my experiments have been received with enthusiasm on the other side of the ocean, and that my remedy has been found useful. In our clinic, as well as in the other clinics of Germany, the same successes have been obtained; similar good reports have been also received from England. I send you inclosed a reprint[*] of my paper, read here October 17th. In regard to your question as to the reason of my experiments with cocaine I may answer as follows: Through the therapeutical experiments that my friend, Dr. Sigmund Freud, made by the internal administration of cocaine, the results of which are published in Heitler's 'Zeitschrift für Therapie,' August, 1884, cocaine became current in Vienna.
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> "To convince myself of the wonderful effects of the drug on the system generally, I took a quantity of the alkaloid, placing it on the tongue, and noticed the benumbing influence (this effect was already known to me through the books). The idea then occurred to me that the influence of cocaine on the *terminal nerves of the conjunctiva and cornea should be the same* as on the tongue, and, if so, would be of great importance, as we had no such substance that would produce anæsthesia without at the same time cauterizing the tissue. I immediately made experiments on animals that succeeded. . . .
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> "In the 'Medical Record,' New York, I noticed the inaccurate statement that the Vienna laryngologists had previously used cocaine; this has only been done since my experiments made upon the eye.
>
> "My friend, Dr. Jellinck,[†] at my suggestion, made experiments on the larynx, with most satisfactory results.
>
> "Very truly, Dr. CARL KOLLER,
> "*Assistant Physician Vienna General Hospital.*"

To Dr. Koller, therefore, is due the honor of the discovery, and more credit is due him as he arrived at the fact by *reasoning* and not be accident. Koller's conclusions, as well as his numerous experiments, can be found *in extenso* in his paper already referred to. He not only used it on diseased eyes, but did operations also with its use with great success. Since his announcement of its wonderful anæsthetic properties every journal in this and other countries had been filled with enthusiastic accounts of operations, not only on the eye, but on regions far removed from that organ.

On October 11th Dr. Moore's first experiments were made with it, and these had already been reported.[‡] He would say that it could be used successfully for every operation on the eye with perfect freedom from harm. Not only did cocaine act as an anæsthetic, but it produced anæmia of the mucous membrane or surface to which it was applied. This paleness came on just before the loss of sensation, and with it there was a reduction in the temperature of the part. When placed in the eye it produced anæsthesia within three minutes, if the solution was freely used. The stronger the solution, the more rapid the effect. This loss of sensation lasted for fifteen minutes, and gradually passed away. The pupil began to dilate within fifteen minutes, the extent of dilatation depending on the strength of the solution. It remained dilated for twelve hours usually. The accommodation was impaired in about thirty-five minutes, the effect lasting six hours, when a four-per-cent. solution was applied; it was rarely entirely paralyzed. As Nikolski found that the pupil still dilated after the sympathetic had been cut, it would seem that cocaine acted through the third pair of cranial nerves.

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[*] "Medical Record," vol. xxvi, No. 20.

[†] Moreno y Maiz, "Recherches cliniques et physiol. sur *l'Érythrox. coca* et la cocaine."

[‡] "Archiv für Physiologie," 1880.

[*] "Wiener med. Wochen.," 43, 44.

[†] "Wiener med. Wochen.," November 8, 1884.

[‡] "Medical Record," vol. xxvi, Nos. 16 and 19.

In order to ascertain the local action of the drug on the blood-vessels, the writer had taken a frog's foot and studied the circulation under the microscope, but had found (what was well known to microscopists) the vessels constantly contracting and dilating. Permanent dilatation was then produced by an irritant; then a drop of a solution of cocaine was applied on this point, and its effect noticed. In three minutes the vessels began to diminish in size, becoming smaller than before the irritation was produced; this contraction lasted for eighteen minutes, and the vessels then went back to the first condition.

In other experiments the same experience was obtained, except that the vessels became *more dilated* than at first after twenty-five minutes. In fifteen minutes this condition of over-distension gave way. Cocaine, therefore, seemed to act first on the vaso-contractors, and subsequently on the vaso-dilators; acting, thus, on the vaso-motor system and also, as shown in the former experiments by hypodermic injection, on the nerves of sensation by direct absorption. This increase in the original size of the vessels noticed in the frog's foot might account for some of the secondary hæmorrhages that had been noticed by some observers after the use of cocaine about the eye and nose.

In operations on the eye, a two- or four-per-cent. solution of cocaine hydrochlorate or borate might be used, and this solution would act better if freshly made. Eight or ten drops should be applied to the conjunctiva by a dropper or in the form of spray during five minutes, and the operation, if it is to be superficial, may be begun immediately. Most are inclined to wait too long. If deep anæsthesia is required, use for twenty minutes before the operation a four-per-cent. solution, two or three drops every three minutes; in this way the deeper portions are benumbed.

For iridectomy, a few drops may be injected into the anterior chamber, as in a case reported by me ("Medical Record," November 8th); and for strabotomy a few drops may be injected under the conjunctiva over the muscle to be divided. For enucleation of the globe, the solution may be used on the surface, and also by injection into the orbit. It may be injected into the lachrymal canal for the operations on these parts. All the operations on the eye can be performed with the aid of this agent; an attempt to remove an eye in October failed in my hands, but since then Dr. Cocks, Dr. Knapp, and Dr. Walker, of this city, have succeeded. In inflammatory *diseases* of the eye it is of great use also to relieve pain.

On the ear it may used in any painful disease; also for operations on the drum-head. The writer would suggest its use for the relief of tinnitus aurium due to thickening of the mucous membrane of the drum cavity; it might be introduced, by the Eustachian catheter, by means of spray. In one case of this sort, treated with a spray of a two-per-cent. solution, he had been led to think good had been done. In the surgery of the pharynx and larynx, above all other parts, it was an agent surpassing any hitherto known, for with general anæsthesia the futility of operations on these passages was well known, as the patient's consciousness was needed to aid in the necessary manipulations. With cocaine we could pick out a tumor from the larynx with as much ease as a cork out of a bottle, as had been proved by Dr. Elsberg, Dr. G. B. Hope, and Dr. Andrew H. Smith, of this city. Its action on the erectile tissue covering the turbinated bones was in keeping with its known effect on the vaso-motor system. It was here that its marked power of reducing the erectile tissue was of immense value, not only in the ordinary condition of "cold in the head," but in those long-standing hypertrophies so often found. In relieving the painful swallowing in tubercular laryngitis and similar affections it was of inestimable value; used as a spray in asthma, much good might be obtained with it.

On the mucous surfaces of the vagina, the urethra, and the rectum, the same anæsthetic effects could be obtained. In the urethra the oleate of cocaine (as made by Foucar & Co.) could be used, as it was useful in passing the sound or catheter, acting both as a lubricant and also as an anæsthetic.

In minor surgery much had been done by injecting the solution into the part to be cut directly, and by injecting the cocaine over the nerve going to supply the part. Some also removed the epidermis and brushed the surface with the solution. In cases of paronychia the finger could be dipped into a solution and left there for five minutes, with good effect.

The youngest patient upon whom he knew of the drug having been used was an infant two months and a half old, on whom Dr. Charles Milne had operated for a preputial tumor. This growth was removed without pain, eight minims of a four-per-cent. solution having been injected into it; some also was brushed on the skin. Nearly half a gramme was used, without any constitutional effect.

He thought amputations could be done with cocaine anæsthesia by injecting over the site of the nerves going to supply the extremity to be removed.

In dental surgery, cocaine could be used either directly on the cavity, about the gums, or, better, hypodermically over the nerve-trunk supplying the part of the jaw about to be operated on. The pure salt could be used in the cavity, or mixed with glycerin in the form of a paste. Teeth could be extracted painlessly. In hemicrania, by using the solution in the eye of the affected side, complete relief had been given in three cases. Internally, cocaine was of service in gastric ulcer, cancer of the stomach, and all painful diseases of this organ, and in all conditions where coca was indicated. It was of special service in gastritis after a debauch; and in the morphine habit its action was most beneficial, as it seemed to have a direct antagonism to morphine.

NEW YORK SURGICAL SOCIETY.

Meeting of December 9, 1884.

(Concluded from vol. xl, page 734.)

Fracture of the Body of the Twelfth Dorsal Vertebra.—Dr. E. L. Keyes presented a specimen of fracture of the spine and dislocation forward, accompanied by the following history:

George H. McM., twenty-eight years of age, by occupation a driver, was admitted to Bellevue Hospital November 15, 1884. His family history was good. He had a chancre six years ago. On November 18, 1884, he was standing in front of his horses, when they started to run and knocked him down, the axle of the truck striking him on the back as it was dragged over him. The wheels did not touch him. He was at once paralyzed. He was taken to the Chambers Street Hospital, and transferred to Bellevue on the following day, where he was examined, and found to have total paralysis of motion below the umbilicus. Sensation was not entirely lost, but was much blunted. This state persisted for a long time, but could not be referred at all accurately to its proper source. The nature of the sensation was not recognizable. There was complete retention of urine. There was pain on pressure over the spinous process of the twelfth dorsal vertebra. This process was separated by twice the normal interval from that of the eleventh, and seemed to be displaced forward. The patient was placed on a water-bed, and the urine was drawn with a catheter three times a day.

November 16th.—The patient vomited occasionally during the night, and had a burning pain near the left anterior-superior iliac spine.

17th.—Considering that the elevation of the displaced spinous process and lamina was the only possible means of relieving the spinal cord from pressure, Dr. Keyes asked his house surgeon, Dr. Pinkerton, to cut down upon the spine and remove the depressed bone. A crucial incision was made, and the muscles were separated from the spinous processes, and pulled aside with retractors. The articular processes were then felt to be displaced from one another, admitting the index-finger between their surfaces, the inferior of the eleventh and the superior of the twelfth dorsal vertebra. It was impossible to make out any fracture of the laminæ. The spinous process and laminæ of the eleventh and the spinous process of the tenth dorsal vertebræ were removed with the *rongeurs*, the latter simply to give room to work in. There was found a slit in the dura about one fourth of an inch in length, which was accidentally increased to three eighths of an inch by being caught between the forceps and the bone. The spinal cord felt firm and normal. After removal of the bone the cord was entirely free from pressure. The operation was thoroughly antiseptic. A rubber drain was inserted, and the wound was dressed antiseptically. Stout zinc splints were applied to the back.

18th.—Temperature 99° to 100° F., and the patient feels a tingling in his feet, but is otherwise perfectly comfortable.

19th.—Examination of the urine showed a specific gravity of 1·010, albumin, and blood. Temperature from 99° to 103° F.

20th.—At 1 P. M. the patient had a chill, the temperature rose to 104·75° F., and the wound was dressed. No pus was found. Discharge only slight.

21st.—Temperature continues high, and the patient feels badly, but has no pain, nor any increase of paralysis or of anæsthesia. Incontinence of urine and involuntary evacuations from the bowels continue.

22d.—The patient died at 5 P. M.

Autopsy.—The appearance of the wound was healthy. Primary union of the incision. All of the organs normal except the spinal cord. The portion between the tenth and twelfth dorsal vertebræ was very soft. There was meningitis with acute ascending myelitis.

Dr. HALSTED referred to a case in which he had trephined the vertebral column for a rotation-luxation forward of the twelfth dorsal vertebra. The patient, a man, about fifty years old, had been so caught between the top of an ascending elevator and a beam as to exaggerate the lower part of his dorsal arch. He was at once brought to Roosevelt Hospital (September, 1884). *Examination* revealed a depression and loss of the spinous process at about the dorso-lumbar junction. Just below the depression, on a line with the dorsal spines, was a sharp bony process, which Dr. Halsted believed to be the transverse process of the vertebra below the one dislocated. There was a complete paralysis of motion and sensation in the lower extremities. The abdominal reflexes seemed to be exaggerated, and all reflexes, superficial and deep, below these were absent. There was retention of urine, and, two days later, incontinence of fæces, also albumin and casts in the urine. On the third day after the receipt of the injury, the *operation* was performed as follows: An incision in the median line, through badly contused soft parts, was made over the lower dorsal and upper lumbar vertebræ. The spine of the dislocated and rotated twelfth dorsal occupied the frontal and sagittal level of the left upper articular process of the first lumbar vertebra. The right transverse process of the first lumbar vertebra, with its fractured tip, was driven into the muscles of the loin. Over the spine of the last dorsal vertebra were traces of central nervous matter.

The left articular process of the first lumbar and the spine of the twelfth dorsal being cut away, a strong Langenbeck's hook was inserted in the laminar fork of the twelfth dorsal. The patient was then doubled ventrally, and, at the same moment, pressure from behind forward on the lumbar vertebræ, exerted by the hands of an assistant, and traction backward by Langenbeck's hook, on the twelfth dorsal vertebra, reduced the displacement with a snap. Reduction of the dislocation was easily maintained. The patient did not, apparently, suffer shock from the operative interference, but died seventeen hours later.

One of the *internes* stated that, shortly after the operation, sensation extended almost to the knees. Before the operation there was no sensation in the parts below the distribution of the first lumbar nerve.

Autopsy.—Double pleurisy, with fracture of seven ribs on the left and of four on the right side. Both lungs œdematous. Fluid in the pericardium. Small granular kidneys. *Operation wound:* Dislocation remains reduced. Comminuted fracture of body of first lumbar vertebra. A small opening into left pleural cavity between eleventh and twelfth ribs. Spinal cord (lumbar enlargement) completely severed, and considerable effusion of blood in dural sac in the dorsal region.

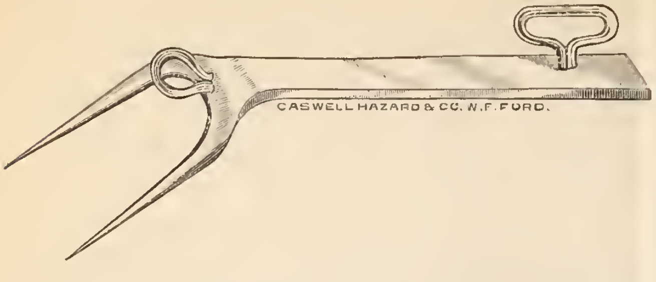
Dr. HALSTED was quite sure that Brown-Séquard had demonstrated, experimentally, that wounds of the spinal cord might heal, and its function be restored; also that other investigators had observed regeneration in animals of excised portions of the spinal cord; and, furthermore, thought there was clinical evidence sufficient to make it probable that, even if crushed, the cord might regain its function.

Dr. SANDS said that, in Dr. Keyes's case, the persistence of complete paraplegia, after the removal of the depressed bone by trephining, rendered probable a disorganization of the cord opposite the seat of fracture, which would make any operative procedure unavailing.

Dr. LEWIS A. STIMSON remarked that the question of trephining for fracture of the spinal column had been discussed for many years, and the fact that the pressure which was sought to be relieved was made on the front of the cord by the displaced body of the vertebra, in a region which was not accessible for operation, indicated that the only service which trephining was likely to afford was that observable in Dr. Halsted's case, namely, affording an opportunity for the introduction of an instrument with which to correct the deformity.

Dr. KEYES thought the fact of the existence of acute ascending myelitis, with a blood-clot opposite the sixth vertebra, above the point of injury, would have made any other procedure unavailing in this case. The pressure seemed to be relieved at the time of the operation, but probably it was not.

A Fork for Fracture of the Patella.—Dr. STIMSON showed a fork to be used in the treatment of fracture of the patella. He had expected to show a patient upon whom he had used it with success, but the man had failed to come. In using Malgaigne's hooks he had found it difficult to insert them deep enough to adjust the screw that connected them, and he had devised this fork as a substitute. The fork was of iron, two-pronged, the prongs being bent on the flat at an angle of about 45° at their junction with the shaft. The prongs were one inch long and three quarters of an inch apart; the shaft was about three inches long. There was a small ring at the base of the prongs for the attachment of an India-rubber cord, and another, at the end of the shaft, for the attachment of a bandage encircling the thigh. The instrument was used by inserting the prongs through the skin above the patella, and pressing them down until they rested against the upper border of the upper fragment; the shaft lay along the median line of the front of the thigh, and was prevented from tilting or moving to either side by a roller bandage wrapped around it and the thigh. Traction downward was made with a piece of India-rubber tubing, one end of which was attached to the ring at the base of the prongs and the other made fast to the shin by adhesive plaster. The introduction of the prongs could be made easily and painlessly by chilling the skin with ice, and making two punctures with a knife. In the case which he had treated with this fork the fracture was transverse and the separation about an inch. The separation was readily overcome by the traction, and the patient made no complaint during the five weeks the instrument was in place. He was kept in bed with the limb suspended in a wire gutter, and the punctures were kept dusted with iodoform; there was no inflammatory reaction about them, and only a slight discharge. The lower fragment was kept gently pressed upward by an oblique turn of a roller bandage. On the removal of the fork, five weeks after the occurrence of the fracture, the fragments were closely and firmly united, without independent mobility. As a precaution, a plaster bandage was then applied, and it was not removed until the end of the ninth week. The knee could then be flexed nearly to a right angle, and there was neither independent mobility nor separation of the fragments.



Dr. Little exhibited Haid's electric battery, designed to give electric light to aid in the performance of operations within cavities.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of October 23, 1884.

The President, Dr. B. F. Westbrook, in the chair;
Dr. A. H. P. Leuf, Secretary.

Dementia Paralytica; Pulmonary Hæmorrhage.—Dr. Edward C. Mann related the case of a man, twenty-two years old, whom, on his first visit, he had found demented, with symptoms of paresis. Four months afterward he had an attack of subacute meningitis, and died three months subsequently from an exhausting pulmonary hæmorrhage. At the autopsy the membranes were found to be adherent to the skull; there was subarachnoid effusion, with a large effusion between the pia mater and the brain; and the pia mater was adherent to the brain, and so thickened in patches that the thickening was plainly perceptible in the microscopical specimen shown. There was also effusion at the base of the brain and in the spinal canal, and the spinal cord was atrophied, with degeneration of the nerve elements of the posterior column, and increase of the connective tissue, as shown with the microscope. The cortical substance of the brain was atrophied and hardened, and there was diffused granular degeneration of the cerebral cells of the frontal convolutions. The left lung was found partly destroyed by the breaking down of the caseous products of pneumonia, and there were large cavities as the result. There were signs of recent endocarditis, and the walls of the heart were atrophied and showed traces of fatty degeneration. It was unusual for so young a person to be attacked with paralytic dementia. The most frequent causes of death were exhaustive and tubercular diseases. The average duration of life, after the development of well-marked symptoms, was about thirteen months.

Dr. John C. Shaw had now under observation a patient who was only seventeen years old. He thought the average duration of the disease was about three years.

Horse-shoe Kidney.—Dr. J. H. Hunt showed a horse-shoe kidney from the body of a man who had died, in St. Mary's Hospital, of chronic gastritis and fatty liver. The kidney, which in shape formed three sides of a square, was situated in the lower umbilical region, its isthmus crossing the spinal column over the sacro-vertebral joint, and the two lateral portions extended upward by the sides of the spinal column. It was found to be made up of two distinct kidneys, united at their lower extremities by a short isthmus of kidney connective tissue, the latter being of the full size of the kidneys themselves. There were two distinct pelves, the one on the left side being provided with two ureters, and that on the right side with but one. About two inches from the kidney the three ureters united into one trunk, which emptied into the left side of the bladder. Although this was one of the most common malformations of the kidney, it was not usually so perfect as in this instance. Sometimes the two kidneys were united at both ends or throughout, and the formation was then known as the "disc-shaped kidney." These abnormities did not usually cause trouble during life, but they had been mistaken for aneurysm of the abdominal aorta from their lying, as in this case, over the great abdominal vessels and transmitting their pulsations. In this case the stomach, which was also shown, was in a state of chronic inflammation.

Stricture of the Urethra.—Dr. Hunt also showed the kidneys, ureters, bladder, and penis of a man who had suffered from stricture, which was seen to be situated in the membranous portion of the urethra. They exemplified the results of this lesion in the shape of dilatation of the ureters and the pelves of the kidneys, and hypertrophy and diminished capacity of the bladder.

Dr. Hunt also presented a pair of lobular kidneys and another kidney containing several pus cavities.

Spherical Vesical Calculus; Uræmia.—Dr. A. H. P. Leuf showed the bladder, ureters, and kidneys from the body of a man who had died of uræmia. A globular calculus was lodged against the urethral orifice of the bladder, full 3 cm. in diameter. The bladder, the ureters, and the renal pelves were dilated and thickened, the ureters being quite 4·5 cm. in circumference. There was no urethral stricture. The dilatation was probably due to an obstruction to the flow of the urine caused by the occlusion of the urethral orifice of the organ by the calculus, which had acted like a ball-valve. The man had been a patient of Dr. George R. Kuhn's.

Dr. Shaw had found a horse-shoe kidney at a post-mortem a few days before. It had two ureters, which united before their entrance into the bladder. He did not know the structure of the isthmus in these cases.

Dr. Hunt said it was usually of ordinary kidney connective tissue.

Dr. Shaw had supposed so, but in his case it was composed of true kidney substance. He asked if the dilated stomach shown had come from the same body as the anomalous kidney, and, having been answered in the affirmative, if that kind of stomach was commonly associated with that kind of kidney, also whether the patient was in the habit of drinking much.

Dr. Hunt could not answer either question, but said that possibly Dr. Tieste could tell about the drinking.

Dr. Shaw remarked that he had found the stomach dilated in the case of horse-shoe kidney that he had mentioned.

Dr. Tieste stated that the patient, in Dr. Hunt's case, had simply had a diarrhœa, and had not been in the habit of drinking.

Dr. Frank W. Rockwell considered it well to bear in mind that horse-shoe kidneys might be more common than was generally supposed, especially when we were about to perform nephrectomy.

The President asked if an ante-mortem diagnosis of horse-shoe kidney was ordinarily possible.

Dr. Rockwell thought it was not.

Dr. George H. Atkinson remarked upon the frequency of an extension of even common inflammatory affections of the urinary tract to the kidney, in the shape of congestion if not of inflammation, and upon the far greater likelihood of such a result occurring in cases of obstruction.

Dr. Leuf called attention to the fact that, if it was desirable to bear in mind the possibility of a horse-shoe kidney in cases where the question of nephrectomy was entertained, it was equally important, if not more so, to remember that occasionally a person had but one kidney. In all the autopsies and dissections that he had made or witnessed, he had seen but one horse-shoe kidney, but he had met with three cases of single kidney. In each of them there could be no doubt of the post-mortem diagnosis, as the ureter on the side where the kidney was lacking had been traced up to its superior extremity, which in all cases was lodged in the retro-peritoneal connective tissue of the lumbar region, and had a club-shaped, vesicular end, of the size and shape of the olfactory bulb of an adult human brain.

Renal Calculus; Diminutive Kidney; Phthisis.—Dr. George G. Hopkins related the case of a man, thirty-nine years old, who had a family history of gout, but had never suffered from the disease himself. He first came under Dr. Hopkins's care July 1, 1880, suffering with nephritic colic. There was a small amount of albumin in the urine, but it disappeared under treatment in the course of two months. On the 1st of June, 1881, an examination of his urine showed the presence of albumin, but it disappeared very rapidly, and nothing else abnormal was observed. He was not seen again until March 20, 1882, when a slight hæmorrhage occurred from the apex of the left lung, but was easily controlled. The patient next consulted him on the 4th of February, 1883, when dullness and some consolidation were found at the left apex. A slight hæmorrhage took place on the 18th, and caused great prostration. At that time the urine presented nothing abnormal. On the 3d of March the patient was sent South, and remained there until the 1st of November, when the urine was found heavily loaded with pus, his phthisis was progressing, and his general health was failing. He went South once more, and was not seen again until September 8, 1884, when he was found greatly emaciated and with both lungs badly diseased. The pus had persisted in the urine during the year. He died September 14th. The right kidney was of full double the normal size and disorganized, containing four cysts as large as a Lima bean. Its pelvis was largely dilated, and there lay in its center a very jagged mulberry calculus, as large as a chestnut, surrounded by a pyogenic membrane. The microscopic appearances indicated that the kidney had been of very little value as a secreting organ. The left kidney was almost infantile, being of about one eighth the size of the other. It appeared normal to the naked eye, and the microscope showed nothing abnormal in its structure. The other abdominal organs were healthy. The case was interesting from the small size of the left kidney, which was probably congenital. It had not taken on any vicarious enlargement to supplement the want of excreting power in the other kidney, and this fact was a point against the theory that compensatory enlargement always took place in the remaining kidney when one had been removed or disabled from any cause.

Stricture of the Urethra; Dilatation and Hypertrophy of the Bladder; Dilatation of the Ureters; Hydronephrosis.—Dr. Frank Ferguson showed a preparation from a man of middle age, who had denied gonorrhœa and given no history of urethral injury. Three years before his death he was treated for stricture in some of the English hospitals, and had neglected afterward to carry out the instructions he had there received as to the daily use of a urethral instrument to keep the passage open. After he came to this country he was examined by a number of competent physicians, but declined surgical interference. He suffered very much before his death, for no instrument could be passed into his bladder through the urethra, and he positively and persistently refused to be aspirated. The autopsy revealed three impassable strictures above the bulbo-membranous junction, half an inch apart. There was great dilatation of the bladder, the ureters, and the renal pelves, with marked hypertrophy of the bladder.

Dr. Ferguson also presented a typical horse-shoe kidney; a stomach enormously distended and having a thickened mucous membrane, with a capacity of 4,004 c. c.; and a brain lacking the soft commissure.

The Treatment of Stricture of the Urethra by Electrolysis.—Dr. Robert Newman, of New York, having been invited to speak upon this subject, said that he had presented a digest of a hundred cases at the Cleveland meeting of the American Medical Association, last year, giving the history of each case in tabular form. It took time to show whether a stricture was cured or simply relieved, and, to settle this question, it was not fair to include cases that had been treated for a short time only, and then lost sight of. Excluding all such, his cases had been consecutive, and all the patients had continued under his observation for periods varying from three years and a half to eleven years. He had likewise excluded some cases in which there were unfavorable complications, such as, for instance, one of chronic urethral abscess. Most of the patients he had re-examined himself, or had heard from through their physicians or themselves. One of them had returned with a stricture, but it had turned out to have been newly acquired, being situated in a different part of the canal from the one that had been treated—the latter had maintained the caliber it had when the patient was discharged.

From such results, he thought he was justified in saying that electrolysis would cure stricture if the operation was properly performed. Only a few days before, he had seen a patient who had declined further treatment six months ago, because he felt well enough when a No. 25 F. bougie passed easily. On this occasion a No. 26 steel sound passed so easily that only two fingers were used as a leader, without any electricity. He ascertained the normal caliber of the urethra, which might be large or small, by the patient's feelings and by the size and force of the stream of urine. Three years ago he had treated an impermeable stricture until a No. 20 was passed, when the patient, being well pleased with that result, would not submit to further dilatation. This very morning the patient had come back to him with retention and dribbling. In these cases the first indication was to give relief. He here showed the instrument to be used (a bulbous sound), and stated that it could be used in connection with a tunneled sound. Tunneled bougies passed along on a guide were perfectly safe. It was easiest to relieve with a tunneled sound. In the case last referred to, he passed a No. 30 with ease, after three years, and relieved the patient, although on former occasions he had used nothing larger than a No. 26.

The size of the urethra was not the important point; the patient's comfort was the thing to be considered. The normal size of the urethra was still a moot question. He had begun, with the most primitive appliances, in 1867. His first paper on the subject was read before the Journal Association, and appeared in the "Medical Record" in March of that year. He also presented his ideas in the "Transactions of the Medical Society of the State of New York" for 1874. They had undergone no essential changes since that time, but he had considerably modified and improved his instruments. He would give the egg-shaped bulb the preference over all others, but sometimes, of course, it might be of special advantage to change the form of the instrument. As a rule, it was best to concentrate the electricity at the seat of the stricture, but where the mucous membrane had a parchment-like character, or where the stricture extended and might be due to a change in the mucous membrane, it might be well to diffuse the current.

The question might be asked, Why all operators did not succeed. No amount of negative evidence could possibly offset even a small amount of positive evidence. The one hundred cases he had reported at Cleveland spoke for themselves. Some had tried the procedure and had failed; others had not liked it, but, after having ventured upon another test, properly conducted, had readily admitted the justness of his statements. As for those who did not succeed, it was for a particular reason. All could not succeed, because they did not work properly; one must be expert, not only in the use of electricity, but also in instrumental manipulation of the urethra. First, it was necessary to be expert in the use of urethral instruments; second, to be expert in the use of electricity; third, to employ the best instruments; fourth, to select the cases.

Dr. Landon Carter Gray asked the speaker if he would not give a detailed account of his method of operating, as some of the gentlemen present knew nothing about it.

Dr. Newman said he would be glad to do so, but, the time being limited, it was hardly possible to do so with any fullness. To return to the selection of cases, it was necessary to distinguish between spasmodic and organic strictures. The former were made worse by the use of galvanism; a spasmodic stricture might even result from its employment, and the faradaic current was the only one that should be used for them. It was better to increase the intensity of the current rather than its quantity. A twenty-cell battery would suffice for these operations. The best cell for the purpose was the Bunsen, of carbon and zinc plates in hard-rubber cells. The fluid must not be too strong, or the action would be too violent at first, and the polarization rapid, thus very soon weakening the current and incrusting the elements with crystals. Any good galvanic battery could be used, but one arranged for intensity rather than for quantity was to be preferred. The current must be steady, without shocks from interruptions. A rheostat attached to the battery was a nicety, convenient in some cases, but as a rule it was not needed, as the current could be graduated sufficiently from cell to cell if the battery was well constructed. It was impracticable to state how many cells or what amount of electricity should be used in these operations—even more so than to state the dose of morphine or any other drug that would suit all patients. The amount of electricity to be used depended partly on the work to be done, partly on the nature of the stricture, and particularly on the sensation and susceptibility of the patient; and for these reasons a galvanometer was of little use, even if we had one that measured the current correctly. It would be desirable to express the "dose" of electricity in terms understood by everybody, just as we expressed the doses of drugs; but, in the practical application, there were other facts to be considered, such as the state of the atmosphere, which carried the electricity and modified the resistance by its humidity. In clear, dry weather, six cells would do as much as ten would do in a rain-storm or during a fog; and a patient might not endure so much to-day as he had borne the day before. Hence, to express the amount of a current by stating the number of cells used was indefinite and only relatively correct. However, we might say, in general terms, that from six to ten cells would be enough. Weak currents would do the work, acting by electrolysis; strong currents, which destroyed tissues, must be avoided.

The bougie electrode used had been perfected, and was of the greatest importance. The instruments shown had been made by Messrs. Tiemann & Co., and were smooth, without any inequalities, and well insulated except at their extremities. The terminal was a silver-plated, egg-shaped bulb of metal, to be used at the seat of the stricture. In special cases other shapes could be used, such as the acorn-shaped or the conical, and for close, tortuous strictures a tunneled sound could be used in conjunction with the electrolysis. Dr. Faneuil D. Weisse used straight electrodes, because he found most strictures in the bulbous portion, but the speaker preferred a short curve and a longer instrument, as he wished only to guide it, and not use any force—the work was done by the electricity solely. At all events, it was well to pass over the whole urethra, and to enter the bladder at least once, so that the patient as well as the surgeon should be convinced that all constrictions had been overcome.

Modus Operandi.—The topography of the urethra should first be well ascertained, and the strictures measured. and a plan for the operation made out accordingly, with a full knowledge of what it was intended to accomplish. The patient's susceptibility to the galvanic current was to be learned by applying it to the hand or some other part of his body. The posture which the patient should assume during the operation was a matter of slight importance; according to his convenience, he might stand, sit, or lie on his back with his shoulders elevated and his knees drawn up. Anæsthetics were not used, because no pain should be caused, and because the patient ought to be conscious, so that he could express his sensations. For ordinary strictures, the size of the bougie selected should be three numbers (French) larger than the stricture. This bougie electrode was then to be introduced into the urethra until the bulb was arrested by the stricture. A sponge electrode, wet with warm water and connected with the positive pole of the battery, was to be held firmly against the patient's skin, either in the palm of the hand or pressed against the abdomen, the thigh, or some other part, to complete the circuit. While both poles were held in this manner, the current was to be increased very slowly and gradually, one cell at a time, until the patient felt a warm and slightly pricking sensation. The operator was to keep the bougie steady against the stricture, and he would soon find that absorption was taking place, that the stricture yielded, dilated, and the instrument slowly advanced and passed the obstruction—at times it would fairly jump through the stricture. If there were more strictures than one, the bougie should be guided in the same way until it entered the bladder. Then the electrode was to be withdrawn slowly, and each stricture well worked out, until the first stricture was passed, when the current was again to be reduced slowly, cell by cell, to zero; and not until then was the electrode to be removed. During the whole operation the electrode must be held loosely and gently in its place against the obstruction, all pressure or force being avoided. The bougie would take care of itself, doing its work by the electrolytic action of the current. A *séance* might last from five to twenty minutes. The observance of the following rules would conduce to success: Begin the use of electrolysis carefully, not cauterizing, but only causing absorption, six cells being enough in many cases. Regulate the current according to the susceptibility of the patient. Repeat the *séances* at intervals of three or even four weeks, the shorter intervals being exceptional. Do not lubricate the electrode with any non-conducting substance. Wet the sponge electrode with hot water. Keep the plates in the battery-fluid only during the operation. Never use force with the bougie; never cause hæmorrhage. Do not operate while the urethra is in a state of acute or subacute inflammation, or when the application causes pain. Do not use the battery-fluid too strong. Never use two bougie electrodes in succession at one *séance*, nor any other instrument. Do not push the bougie to and fro in the urethra; it must be passed only once down and back again, and that with care.

If stronger currents were used than had been indicated, the tissues would be cauterized; if still stronger ones were used, the tissues might be destroyed. During the process of healing, plastic lymph was thrown out, which would fill up the urethra, and the adhesion would cause a worse stricture. This state of things had been produced by an eminent surgeon, who had made these experiments almost simultaneously with the speaker; but he used a current strong enough to make his patients scream with pain, as he himself had stated in his report. Of course, he reported failure.

Electrolysis was the decomposition of a compound body by electricity, as stated in any text-book on chemistry. The positive pole attracted the oxygen and acids, while to the negative pole went the hydrogen, the alkalies, and the base of a salt. An experiment which demonstrated these facts, and which the speaker believed was original with himself, was the following: Two small glass bottles were nearly filled with a solution of iodide of potassium, their bottoms being replaced with pieces of bladder. The necks of the bottles were then closed with corks, through which ran a conductor—a small platinum wire was the best. Both bottles were then placed in a dish of water, about six inches apart. To the platinum wire of each bottle was attached one pole of a battery, which was then started with six or more elements, but a stronger current would show the effect more strikingly. We should now observe that, in the bottle connected with the positive pole, yellow streaks would appear in the clear solution, and in about five minutes the bottle would contain only a dark-yellow fluid, colored by the iodine set free. The contents of the bottle connected with the negative pole would remain clear, with white bubbles, or froth, due to the liberation of hydrogen and potassium. If we made the same experiment with a faradaic battery, no change would take place. This practical test proved that we should use only a galvanic battery for the electrolysis, and that the negative pole should be applied to the stricture, also that the action in the cure of the stricture was a chemical decomposition by absorption—"a galvanic chemical absorption."

It would be easy to tabulate a thousand cases of stricture treated successfully with electrolysis. The method had been fully tried and established, and every day brought new converts and made new friends. If proper precautions were observed, and the cases were selected, a cure would result.

Dr. David E. Callaghan asked if Dr. Newman had ever seen an autopsy of a person who had been so treated by himself, and, if he had, whether the electrolysis had removed all the new-formed tissue, so that there was no chance of recurrence.

Dr. Newman replied that he had witnessed such an autopsy, and that the appearances confirmed his ante-mortem conclusion. He had also experimented upon a dog, using in the urethra a current strong enough, he supposed, to end the animal's life, but the dog survived it, and, when he was afterward killed, it was found that the urethra had not been injured. He had also operated with a strong current, under anæsthesia, for a stricture of the rectum, in a female patient, in a case complicated with six distinct suppurating fistulæ opening in the gluteal regions. The patient declined further treatment, because she felt well enough, and, about ten months afterward, the same patient was found dying with peritonitis. A post-mortem was made, and the specimen was presented to the New York Pathological Society; it proved that there was no trace left of the former stricture, the whole rectum being lined with normal mucous membrane. In this continuous membrane six *very small* depressions could be seen, which marked the openings of the former fistulæ. These pits were so small that only diligent search revealed their existence. These post-mortem observations, with the histories of one hundred living patients in whom, for periods varying from three to eleven years, no relapse had occurred, best answered Dr. Callaghan's question, and proved the efficacy of the electrolytic treatment. In answer to a further question by Dr. Callaghan, as to whether cicatricial tissue could not be removed by electrolysis from other parts, such as the face, Dr. Newman said that it could—the measure was useful in removing tissue even from bones, as we knew from actual experiment. He had now several cases of malignant tumors under observation, in which the same treatment was being employed. There was a difference of action, however, with weak and with strong currents, also with mucous membranes and with cutaneous surfaces.

Dr. Atkinson thought that electrolysis took rank with divulsion, urethrotomy, and both combined, as well as with the steel sound, but he was not prepared to say that it outranked them. He called attention to the varying nature of strictures, and thought that measures of treatment should be varied accordingly.

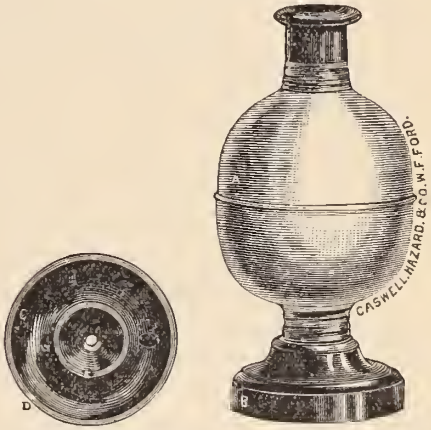
New Inventions, etc.

A MODIFICATION OF CAMMANN'S BINAURAL STETHOSCOPE.

By D. M. Cammann, M. D.,

INSTRUCTOR IN DISEASES OF THE CHEST AND PHYSICAL DIAGNOSIS AT THE NEW YORK POLYCLINIC.

So numerous are the modifications of the binaural stethoscope that have been suggested, and so few, if any, have essentially improved its value as an acoustic instrument, that I add, with a feeling of diffidence, one more to the list already so long. Nevertheless, I have confidence that the stethoscope now described has advantages of practical value over that at present in use.* The instrument differs from the latter in this, that in the chest-piece is a circular chamber, open on the side, which is applied to the chest. The inner and outer walls of this chamber are circular and nearly half an inch apart, the inner wall being the extremity of the tube leading from the chest to the ear, and the outer being the outer wall of the chest-piece, which, arching above and joining the inner wall, forms the roof of the chamber. The rims of the inner and outer walls lie on the same horizontal plane, so that when the instrument is applied to the chest the chamber is closed on every side. Connected by a small tubular opening with this chamber is a hollow rubber bulb, and, by pressure and relaxation of pressure by the hand



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* A stethoscope, with a chest-piece containing a hollow chamber for exhausting the air, was suggested to me three or four years ago by Dr. J. R. Leaming. The present instrument is the result. In the instrument of Constantin Paul, in which the chest-piece is similar in shape to mine, the air is exhausted not only in the chamber in the chest-piece, but in the two tubes leading to the ears. I am indebted to Mr. Ford, of Caswell, Hazard & Co., for assistance in the mechanical part of the work.

upon this bulb, the air in the hollow chamber is exhausted, and the stethoscope is held against the chest by the pressure of the external air. The tube conveying the sounds to the ear passes through the rubber bulb just above the chest-piece. The advantages of this are twofold: it gives compactness to the instrument, and the rubber bulb acts as a resonator to the passing sounds. In the figure a side view is given of the modified portion, which, at the upper part, can be screwed on to the binaural stethoscope like the ordinary chest-piece. B is the chest-piece, and A is the rubber bulb surrounding the sound-conveying tube, which passes from the chest to the ear. The smaller figure represents the chest-piece. E is the inner rim surrounding the sound-conveying tube leading to the ear. C is the chamber, bounded within and without by the walls E and D, and above by the roof formed by the arched junction of these two walls. As seen in the figure, it is open, but becomes a closed chamber on being pushed against the chest. D is the outer wall of the chamber. In the roof of the chamber, C, is a small opening leading to the bulb A, as seen in the larger figure, by which the air is exhausted, and the instrument held firmly against the chest.

Some of the practical advantages in the use of the instrument may now be considered. It is brought in the closest possible contact with the chest-wall. The sounds conveyed to the ear pass through two hollow chambers—the one in the chest-piece, and the rubber bulb—both of which act as resonators, and increase their intensity. Not only is the intensity of the sound greater than in the unmodified stethoscope, but the true quality is better brought out. The heart-sounds are more intense, and murmurs more readily recognized. The bronchial sounds are more bronchial, and the true character of sounds heard over cavities is better appreciated. Another advantage of the instrument is that the two hands of the auscultator are left free to practice the method of auscultatory percussion—a method which has not yet received the attention it deserves. With this stethoscope one observer can at the same time auscultate and percuss over the liver, the kidneys, or abdominal tumors. It can also be used over the heart, but not, perhaps, with such advantage as the solid wooden stethoscope. If the stethoscope be applied without pressing upon the rubber bulb, it may be used in the same way as the ordinary instrument. The modified portion is made so that it can be screwed on or removed at pleasure from a stethoscope that has the usual movable chest-piece.

Miscellany.

THERAPEUTICAL NOTES.

Hydrochlorate of Pareirine.—M. Ferreira, says the "Lancet," has called attention to the value of pareirine in obstinate cases of malarial disease which resist quinine. The dose is thirty grains daily, to be increased to sixty grains if necessary.

Ergot in the Treatment of Cough.—Dr. Allan ("British Medical Journal") reports fifty cases of pulmonary affections in which cough was a distressing symptom. He generally employed subcutaneous injections of ergotin. The dose is not mentioned. In most instances signal relief was obtained.

The Vapor of Glycerin in Obstinate Coughing.—The "Lancet" credits M. Trastour with a communication to the "Gazette médicale de Nantes," in which he speaks highly of this remedy. He evaporates two ounces of glycerin in a flat dish, and allows the patient to inhale the vapor. Carbolic acid may be added with advantage. This treatment is specially applicable to phthisical patients.

Corrosive Sublimate in Urethritis.—M. Chameron ("Union médicale") has recently presented a thesis upon this subject, in which he advocates the injection of a solution of corrosive sublimate (1 to 20,000) in chronic urethritis, on the ground that the gonococcus, or specific parasite of gonorrhœa, is destroyed by a solution of this strength. Three injections of the warm liquid are to be given daily, after the act of urination. Care should be taken that it reaches the deepest part of the canal. The writer mentions several cases which were cured in a week under this treatment.

Iodoform in Diabetes.—Dr. Bozzolo is quoted by the "Deutsche Medizinal-Zeitung" as having contributed an article on this subject to the "Archives italiennes de biologie." He states, as the result of a number of clinical observations, that iodoform, in doses of from one to three grains, causes a rapid diminution in the amount of water and sugar in the urine. He calls attention at the same time to the fact that iodoform lowers the arterial pressure and diminishes the number of red corpuscles in the blood. He can not account for the latter phenomenon.

Tannic-Acid Enemata in the Treatment of Cholera.—Professor Cantani, of Naples, says the "Centralblatt für die med. Wissen.," has had considerable success in the treatment of cholera with this method, used on the theory that the bacilli flourish in the alkaline fluid of the intestines. He seeks to destroy them by using acid injections. Carbolic acid he has rejected, because of the toxic symptoms which sometimes follow its use. His formula is as follows:

Tannic acid................	1 to 3 drachms;
Laudanum..................	30 to 50 drops;
Gum arabic.................	2 ounces;
Warm water.......... ...	2 quarts.

The writer does not mention the exact quantity of fluid which he uses for a single injection. This treatment is specially applicable to choleraic diarrhœa occurring during the progress of an epidemic.

The Treatment of Blepharitis.—Darier ("Progr. méd.") proposes this ointment:

Red precipitate..................	1½ grain;
Vaseline.........................	2½ drachms.

Apply to the eyelids every night. He recommends at the same time the internal administration of iodide of potassium with cod-liver oil.

The Ohio State Sanitary Association will hold its second annual meeting at Columbus on the 5th and 6th of February. Full information as to the programme, railway rates, etc., may be had by addressing the Secretary, Dr. R. Harvey Reed, Mansfield, Ohio.

The Northwestern Medical and Surgical Society elected the following-named gentlemen to office at the annual meeting: Dr. Thomas H. Burchard, President; Dr. A. R. Robinson, Vice-President; Dr. J. Henry Fruitnight, Secretary and Treasurer; and Dr. S. Baruch, Dr. E. S. Peck, and Dr. Charles A. Leale, Committee on Admissions.

The Late Dr. A. S. Church.—At the last regular meeting of the Northwestern Medical and Surgical Society, the following resolution was adopted:

Resolved, That in the death of Dr. A. S. Church this society has met with a great loss, which we all most deeply deplore; that his kindly, genial smile, accompanied by his always welcome presence, will be missed by us; and that we can only, in this sad bereavement, tender to the family of the deceased our heartfelt sympathy.

Charles S. Wood, M. D.,
Charles A. Leale, M. D., } *Committee.*
Mark Blumenthal, M. D.,

The Sublingual Ulcers of Whooping-cough.—The "Lancet" states that M. Delthil has made observations that lead him to think that these lesions are not traumatic, but of contagious and parasitic origin, from direct contact of a healthy with a diseased infant. The lesion is not seen until about two weeks after inoculation, when it is ushered in by fever, which fever is believed to be due to "an intoxication by microbes." The healing of the sublingual ulcer is a proof that the disease has run its course, and that the microbes have been eliminated from the blood.

This curious theory bears a striking resemblance to that of the "lyssæ" of rabies, and perhaps the latter suggested the former. Both ideas may at present be regarded as creations of the "scientific imagination" which Tyndall speaks of.

Female Internes for the Paris Hospitals.—We learn from the "Union médicale" that six women presented themselves at the recent *concours* for the hospitals, but that no French woman has yet taken advantage of the new privilege.

THE NEW YORK MEDICAL JOURNAL, January 10, 1885.

Original Communications.

CASEOUS LYMPHATIC GLANDS, AND THE IMPORTANCE OF THEIR EARLY REMOVAL.*

By GEORGE R. FOWLER, M.D., Brooklyn,
SURGEON TO ST. MARY'S GENERAL HOSPITAL.

Gentlemen: The task which I have undertaken—that of attempting to clearly define some more recent views regarding the necessity of early removal of caseous lymphatic glands, with the object of preventing general or remote tuberculous infection—I confess is one fraught with no small amount of difficulty. With all the light shed upon the subject of tuberculosis by modern pathological research and the revelations of the microscope, much uncertainty yet prevails as to the nature of the disease, the structure of its morbid products, and the relations which these latter bear to each other; even diversity of opinion exists as to the order of sequence of some of its gross and microscopical anatomical changes. You will pardon me, therefore, if I decline to enter fully upon the pathology of the disease and confine myself to the matter of the relation borne by diseased lymph glands, and the establishment by the surgeon of a prophylaxis, in their early extirpation, against general tuberculous infection.

Let us for a moment consider the method of caseation of a diseased lymphatic gland. At a no very remote period in the history of medicine it was taught, and generally believed, that caseation could only occur after the formation of pus; in other words, that absorption of the watery constituents of the pus took place, leaving the cheesy mass behind, and that this latter was in effect nothing but inspissated pus. This was considered, in general terms, to be one of the sequels to abscess formation, and this view was thought to account for the yellowish-white infiltration so frequently found in inflamed lymphatic glands. A moment's reflection can not fail to convince one that this view is not the correct one, inasmuch as there are but two channels through which these watery constituents can escape from the cavity of the abscess (supposing that such existed in the gland prior to its caseation), and these channels are constituted by the lymphatics and the blood-vessels. Now, as far as histological research goes, it has not yet been shown that granulations lining the abscess wall contain lymphatics; and even granting that such should prove to be the case, it seems incomprehensible, in our present state of knowledge, that only the watery portions of the pus should be thus carried off, and the small, dark bodies which are to be found in caseous foci, and at one time were looked upon as degenerated pus corpuscles, should not also find their way out by the same route.

Again, it is a physical impossibility for the watery constituents of the pus to escape through the walls of the vessels constituting the circulation of the granulation tissue of the abscess wall, for the reason that the pus contains more of the salts than the blood stream; and, if any interchange took place between the two fluids—i. e., the pus upon one side of the vessel wall and the blood upon the other—the reverse process, that of exosmosis, would take place, and water would be drawn from the blood rather than from the pus. It is likewise a not infrequent experience to find glands the subject of caseous infiltration lying adjacent to, and in some instances intimately blended with, glands the seat of genuine abscess pointing in the usual manner. It is therefore now held that caseous infiltration is the primary change, so far as the gland itself is concerned, and that abscess formation is but a secondary and purely accidental circumstance.

Having settled to our satisfaction the fact that caseous lymphatic glands are not the result of suppurative lymphadenitis and the inspissation of pus consequent thereon, it may be worth our while to discuss briefly the manner in which caseous infiltration occurs, and the characters of this latter. According to the views held by Hueter, the infiltrated cheesy mass consists mostly of spores which have the property of rapid multiplication by a process of cleavage (*Spaltpilzen*), and these find their way into the gland through the vasa efferentia. He also holds that these have their origin in some peripheral foci of inflammation, and, although but a few of the spores may thus find their way into the gland, yet, by their rapid propagation, an increase of the infiltration occurs. It therefore is evident that these cheesy foci in the glands are reservoirs of spores, according to the authority just quoted, who further states that this variety of spore possesses but slight irritative qualities, and may remain quiescent for a long time without producing sufficient local disturbance to cause abscess. These cheesy foci of lymphatic glands are frequently found coincidently with a granulating inflammation of peripheral parts—for instance, with chronic synovitis of the variety known among German surgeons as synovitis granulosa; that supposed typical local expression of the ill-defined, shadowy, and mysterious condition commonly denominated scrofula.

It has long been a matter of common experience that so-called scrofulous individuals are frequently destroyed by general tuberculosis; and, finally, pathological and anatomical researches called attention to caseous lymphadenitis as a means of diagnosis of the condition known as scrofula. Following this came the observations of von Buhl, who maintained that, in post-mortem examinations of patients dead with general tuberculosis, cheesy foci could invariably be found from which tuberculosis developed. The profession were scarcely willing to admit a close relationship as existing between the two diseases, much less their identity, until Villemin, in 1866, showed, by his experiments upon animals, that tuberculosis can be induced by the introduction of cheesy matter. These latter have been frequently verified by others. While Villemin experimented by inoculating his animals in the subcutaneous cellular tissue, Armanni inoculated caseous matter into the cornea, and Cohnheim very ingeniously made use of the anterior chamber of the eye in rabbits, whereby the alterations in the living animal can be traced, and the formation of tubercles in the iris can be recognized. Finally, the researches of Klebs, and his beautiful successive-culture experiments, should not be lost sight of in this connection. He claimed that the poison upon which the manifestations of so-called scrofula depended were vegetative micro-organisms.

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* The address of the chairman of the Surgical Committee, Medical Society of the County of Kings, delivered November 18, 1884.

To show the analogy of the tuberculosis brought about by inoculation of caseous material in the animal and that which occurs in the human being, the subject of a caseous infiltration of lymphatic glands, it may be noted that an eruption of small nodules takes place as a local lesion in the neighborhood of the cheesy mass with which the animal has been inoculated, just as there will be found, in the case of the human subject, either in the lymphatic glands adjacent to cheesy foci, or in their near surroundings, similar nodules preceding the development of tuberculosis of the internal organs. A beautiful example of this came under my observation some time ago in a hospital patient from whom I removed a caseous cervical lymphatic gland. A number of small nodules were found scattered about in the immediate neighborhood of the cheesy mass, which suggested to me that my operation had been done too late to save the patient from what I felt was inevitably coming. My presentiments proved to be only too well founded, for the girl presented herself to me quite recently with a well-developed tuberculous infiltration at the right apex, which was already undergoing softening.

In cheesy foci themselves, whether as found in caseous lymphadenitis, tuberculous orchitis, or elsewhere, as well as in the exuberant tissue formation of granular synovitis of tubercular origin, a careful microscopical examination has shown, in the hands of expert histologists, fine tubercles to exist as a common occurrence. In rare cases these may be distinguished by the naked eye, in which case they are present in large numbers. During a recent visit to the surgical clinic at Halle, the distinguished Professor Volkmann exhibited to me a fresh specimen of caseous deposit in the cancellous tissue of the lower extremity of the femur, taken from a patient who had suffered from granular synovitis. Surrounding the cheesy mass was plainly to be seen a grayish-like halo marking the site of tubercle.

It has been pretty clearly shown that not only the cheesy foci, but the granular foci, not cheesy, of lymphatic glands contain the special poison containing tubercle, whether this latter be in the vegetative spores claimed by Hueter as being the originally infiltrated material of caseous lymphadenitis, or the *Monas tuberculosum* of Klebs, the bacterium of Buhl, or the *Bacillus tuberculosis* of Koch. In view of this fact, it may not be deemed inexpedient to remove any persistently enlarged lymphatic glands, whose induration can not be reasonably accounted for upon other grounds. Even the assumption that these are "only scrofulous" will hardly warrant the surgeon in declining to interfere, for, in the light of the above facts, it may be proper to assume, from a surgical standpoint at least, that tubercle is the legitimate product of a scrofulous inflammation, and this still remains the most comprehensive as well as the simplest explanation of the relations which caseous lymphatic glands, and, in some instances, lymphadenitis without caseous infiltration, bear to general tuberculosis.

The following suggestive experiment was made by Schüller and Hermann Hueter at the surgical clinic at Greifswald: The sputa of a tuberculous patient was atomized, and an animal was compelled to inhale the atomized fluid. The result was, that in this manner inflammation of the joints could be induced among the other ordinary lesions of tuberculosis. The elder Hueter was also successful in producing tuberculous joint disease by implanting cheesy material from a lymphatic gland of a human subject into the muscle of a frog.

The following case may be cited as bearing upon the question of the so-called inherited tendency or predisposition to the development or formation of tubercle as we find it surgically: A lad of thirteen came under my care at the hospital recently, with a large number of enlarged lymphatic glands of the neck, some of which were the site of caseous infiltration. I learned from the mother that I had amputated the boy's father's thigh for what I now remember to have been tuberculous disease of the knee joint, and that the man had perished some little time afterward from pulmonary tuberculosis. This occurred a trifle over twelve years ago, when the present patient was an infant in arms. Here, I reasoned, was a case of caseous, and perhaps scrofulous—whatever that may mean—lymphadenitis, and, if there is such a thing as a hereditary tendency to the formation of tubercle, then this boy will surely become tuberculous.

Fortunately for the boy, I argued, his submaxillary and cervical, rather than his mesenteric and bronchial, lymphatic glands have become the seat of this caseous infiltration which may bear with it, or become fruitful soil for the development of, the spore, coccus, bacteria, or bacillus, upon which the future development of tubercle may depend, in his case. I therefore instituted a series of operations for the removal of all his supra-hyoid, submaxillary, and upper and lower superficial, as well as deep cervical, lymphatic glands of both sides, all of which were involved, giving him a "ruffle-necked pigeon" appearance as he presented himself to me. Of course, it is yet too soon to even speculate upon what the result may be; but I am satisfied that, if my interference has been well-timed, I will have at least saved this boy from one of the sources of danger to which he must be exposed during his entire lifetime—namely, that of tuberculous disease of some joint or internal organ.

To summarize, then, I would briefly call attention to these points: 1. That what may appear—and in the opinion of the older teachers was—an innocent cheesy gland, which had become so from an inspissation of its contents, is really the site of an infiltration of material which rapidly becomes propagated, and constitutes the so-called caseous lymphadenitis. 2. That this caseous infiltration may be, and in all probability is, either the bearer of, or the soil proper for, the cultivation of the spore or germ upon which the anatomical product known as tubercle depends for its formation. 3. That there is a period of quiescence, varying perhaps in different individuals, during which no advance in the disease takes place, but during which the patient is threatened with an outbreak of general tuberculosis. 4. Wherever such caseation is within reach of surgical art, the same rule that is applicable to carcinoma and sarcoma—namely, early, thorough, and complete removal—should be practiced; and this rule might be of service in those doubtful cases where a persistent lymphadenitis, without caseation, occurs, and no explanation or reason for its existence can be found, as well as to enlarged and indurated glands found in the neighborhood of those the site of caseous infiltration.

THE GROSS ANATOMY OF SURGICAL TUBERCULAR DISEASE.*

By E. A. LEWIS, M. D., Brooklyn,
LECTURER ON ANATOMY AT THE LONG ISLAND COLLEGE HOSPITAL.

The gross anatomy of surgical tubercular disease will be briefly considered in this introduction to the papers of the evening which will follow. I may, at the outset, exclude any description of this lesion in the lungs, not only because the gross anatomy is so familiar to all, but also because a *résumé* of this division of the subject is expected in a later paper. The object which I hope to attain is, to particularize those tubercular diseases which may be denominated surgical, and to present in each case the anatomical characteristics.

In so doing I may mention not only the more important lesions, the consideration of which will follow, but also some less frequent varieties, which may be treated by other surgical means than excision.

In what parts of the human body, first, do we find tubercular degeneration which may serve as a nidus for further infection, and which may be treated surgically? Second, What are the general appearances which characterize this lesion? Third, What are the objective symptoms? First, then, as to the different situations of this disease.

It seems that there is hardly any tissue of the body which is not liable to this degeneration.

The various authors, both medical and surgical, describe it as occurring in almost every part of the body and in almost every tissue, from the meninges of the brain to the phalangeal articulations of the foot, the parts least liable to attack being skin, tendon, aponeurosis, nerve, ligament, and voluntary muscle. What concerns us, however, is the general and specific appearance of those parts of the body where surgical interference may be of advantage to the patient.

These situations are, naturally, in the extremities in any part; or, superficially, in the neck, head, or trunk.

1. *Lesions of Mucous Surfaces.*—These are mostly of specific origin, but none the less on that account tuberculous. They are found principally about the mouth in both sexes and the genitals of females. They consist of irregularly oval patches, white or dusky-gray in color, slightly elevated above the surrounding surface.

2. *Painful Subcutaneous Tumors.*—These are found in the connective tissue under the skin, and often involving the skin itself. They occur principally on the extremities, especially the lower one; they are freely movable, and of about the size of a pea, as a rule.

There is no discoloration of the skin when it is involved. Section of these firm little tumors shows a homogeneous mass resembling somewhat adipose, or sometimes white fibrous tissue, and very plentifully supplied with nerve filaments; in fact, they are prone to occur in or over the course of a nerve. There is, third, a variety of subcutaneous tuberculous tumors of specific origin which are multiple, in distinction from the last-mentioned, which are single. These last vary in size, some being as large as an egg; they not only invade the connective tissue, but are sometimes found in muscles and tendons. They are firm and dense, and seldom involve the skin till they are softened and about to form abscesses.

4. *Bone Tissue.*—We find two varieties of this disease, differing both in anatomical characteristics and in the course which they follow. In one variety the deposit is nodular and encysted; in the other there is a diffuse infiltration of tuberculous matter. In either case the contour of the bone is at first preserved in an enlarged form. The first, or encysted variety, begins as a diseased spot, or in diseased spots, some of them as large as a hazel-nut. Section of the bone shows these firm and almost cartilaginous. They eventually soften and break down, forming the true bone abscess. The limb at this time is enlarged and penetrated by fistulous tracts, through which the pus finds exit. Section of the bone at this stage shows a thin external crust with an internal cavity, with more or less firm walls. When, on the other hand, the infiltrated variety of the disease occurs, the bone at first is somewhat enlarged, and section shows the whole interior permeated by small tuberculous points. As the disease progresses the soft parts become involved, while the bone itself is wasted away by a carious degeneration. Its contour is lost, and many times only a thin, irregular shell or fragment remains, while sequestra from time to time come away. The point of distinction, therefore, between these two varieties of tubercular degeneration of bone is, that one forms abscesses in bone—the other is a carious degeneration. Both destroy the bone.

The lymphatic glands are affected more often, possibly, than any other tissue. A single gland may be the seat of the trouble, or a whole chain be at once attacked, or the infection spread from one to another. Children are peculiarly liable, and the glands about the neck most often attacked. These glands become at first enlarged, hard, and misshapen; then they soften, involve the skin and break down into abscesses, leaving behind unpleasant scars. Often they attain a large size before breaking down. Early section shows almost a cartilaginous appearance, the capsule varying in thickness. Later on the contents are softer and disintegrated, resembling millet-seeds, the glandular appearance being entirely lost. Then they become spultaceous and cheesy, and finally break down altogether into pus.

This disease in the larynx is especially destructive. The submucous tissues are infiltrated and thickened. The mucous membrane presents a worm-eaten appearance from ulcers of different sizes. Pus may be infiltrated through the tissues. The cartilages are eroded, and often bathed in pus. The ligaments are œdematous. In short, the whole organ is affected and its function gone.

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* Read before the Medical Society of the County of Kings, November 18, 1884.

The same two varieties of tubercle which were mentioned as occurring in bone are found also in the genito-urinary tract—i. e., the nodular or encysted, and the infiltrated. The ultimate result of each is the same—i. e., destruction of the proper tissue and function of the part. The testicle is at first enlarged, indurated, misshapen, and often very hard. Or it may be nodular, showing soft spots between the nodules. The epididymis is usually first attacked. The same process of softening of the tubercle with the formation of abscesses occurs as has been described. When abscess has formed and opened, there is apt to be a protrusion of fungous granulations made up of the gland substance of the testicle itself.

The kidney is not much enlarged, and its capsule is not thickened. It may be roughened, uneven, and nodular externally. The encysted tubercles attack the cortical substance first, while the infiltrated variety is general. The result in either case is the same—both the substance and function of the organ are destroyed, and, in extreme cases, there remains only a sacculated cavity containing pus and *débris.*

The specific tubercle which is found in this tract is made up of patches of yellow tuberculous matter.

Last, and perhaps most frequent and important of all, *Tubercular Joints.*—Three stages of the disease are usually described.

In the first—called by Barwell "strumous synovitis"—the joint is not much swollen, but stiff. There is some fluid present.

The synovial membrane is thickened as well as the articular cartilage, which becomes loosened from its bony attachment.

As the disease progresses to the second stage, the joint is more swollen, deformed, and baggy. Fluid in the joint-cavity gives distinct fluctuation. The synovial membrane is softened and covered by granulations. The cartilages are ulcerated and worm-eaten. The bone is red, soft, and carious, and the ligaments are loose, spongy, and hypertrophied. Bony points about the joint are obliterated and the skin becomes whiter, thus giving rise to the name white swelling.

As the deformity increases and the tension becomes greater, the *third stage* is reached.

The joint now is discolored, and discharges pus and *débris* from its disintegrated interior.

The death of the tissues mentioned a moment ago is only more complete. The integrity of the whole joint is lost and its function destroyed.

It remains now only to mention a few anatomical points about the different joints which may assist in diagnosis.

In order of frequency, the hip and knee are attacked first, ankle and elbow next, carpus and tarsus third.

In the wrist, swelling at the back of the hand is the distinctive feature. There is indistinct fluctuation. The muscles of the forearm are wasted. The fingers look long. The head of the ulna is often prominent.

At the elbow, the swelling is on the anterior surface, and gives the appearance of two cones with their bases together, their apices directed up and down. The olecranon is the only bony point remaining. The joint is stiff and the neighboring muscles wasted. The opening into the joint usually occurs posteriorly. The ankle shows first fluctuating swellings in front of the malleoli, progressing to general swelling of the joint with wasted muscles, twisted foot, and enlarged ends of the bones.

The knee and hip are the two joints oftenest attacked, and it needs but a word to bring before the mind of each one the picture of this unfortunate visitation. In the knee, the swollen and fluctuating joint, the white, tense skin, the absence of bone landmarks, the enlarged veins, the immobility, the swollen leg, the atrophied thigh—all point unerringly to tuberculosis; while about the hip the anatomical changes are still more striking, not in the first stage, for in this there is little to note. But in the second and third stages, the flat buttock with its flabby muscles becoming afterward swollen and œdematous, the abduction, outward rotation, and apparent lengthening of the limb, followed by adduction, internal rotation, and flexion of both leg and thigh, the wasted muscles, abscesses, and sinuses—these changes alone, without the aid of personal history and all the other means, would render the diagnosis undoubted.

TUBERCULOSIS OF THE GENITO-URINARY TRACT,

MORE ESPECIALLY AS INVOLVING THE KIDNEY AND TESTICLE.*

By FRANK W. ROCKWELL, M. D.,
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Mr. President and Gentlemen: In presenting the subject assigned to me for this evening I must at the very outset waive all intention of either attempting to define certain limits within which true tuberculosis may be said to exist, or of even classifying the disease into primary, secondary, etc.—my object being to simply call your attention to a few clinical facts in regard to one or two of its more important forms, and so furnish material for the evening's discussion.

Strictly speaking, the true pathology of the disease as it affects the genito-urinary tract is by no means settled, some authorities regarding it as a true phthisis, while many others insist that tubercle, when found in these organs, is always secondary to and the result of a preceding strumous inflammation, whose caseous or cheesy products are found, on examination, to contain tubercles, as in other organs. The inextricable confusion which reigns through even modern pathology as to the terms scrofula and tubercle is intensified here, as in many cases "tubercular disease" of a kidney or testicle exists where no hereditary predisposition can be discovered, and in others the histological elements of true tubercle are wanting in specimens whose gross appearances and clinical history point unmistakably to tuberculous disease.

That tuberculosis proper of any of the organs forming the genito-urinary tract may and does occasionally exist as a secondary result of preceding disease affecting the lungs or glandular system is a fact known to all who are familiar with the post-mortem appearances of phthisis; and, accordingly, it has been seen by most of us as presenting itself in the bladder, testicle, and prostate of the male, and Fallopian tubes of the female.

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* Read before the Medical Society of the County of Kings, November 18, 1884.

In these situations it is, however, a mere local expression of a general condition, and of interest clinically simply as it elicits symptoms varying with the functional activity of the organ affected. As a matter of fact, tuberculous inflammation which gives rise to symptoms of sufficient gravity to be grouped and studied by themselves occurs most frequently in two only of the organs constituting the genito-urinary tract—viz.: the kidney and testicle—and it is to these affections I wish to refer in the short time at my disposal.

It is a matter of general experience that renal phthisis is in many instances found in subjects free from hereditary diathesis, and also that, while the generative organs are frequently implicated with the kidneys in the male, this is seldom or never the case in the female. Statistics also show that the disease is nearly twice as frequent in males as in females; also that, while found at both extremes of life, it is most common in middle age, when the functional activity of the generative apparatus is at its highest, and also the depressing influences which produce tubercular diseases are most active. Commonly both kidneys are diseased, but *in many of the cases where one side only has been affected, the epididymis or testicle of the corresponding side has been also found diseased.* Upon this fact I wish to lay some stress, as it seems to my mind to convey a strong reason for believing that, in the male sex at least, a close relation exists between tubercular disease of the generative system and that of the kidney; and that this relation is one of cause and effect would, I think, have been admitted long ago were not both diseases so rare as to have been studied only in isolated cases and at infrequent intervals.

As the symptoms of tubercular kidney are largely those of chronic pyelitis, caused by the gradual accumulation and breaking down of caseous foci and tubercular deposit in the tissues of the kidney, and the resulting ulceration in and absorption of the renal structure, but little time need be spent upon them. A significant fact, however, is that in secondary disease of the kidney (the commonest form of the affection) the pathological processes begin almost invariably upon the *mucous surfaces* of the pelvis of the organ, the papillæ being the first portions of renal *tissue* involved.

The diagnosis, too, of the disease is by no means an easy matter, unless it coexist with phthisis of some other organ, although some observers lay stress on the presence of caseous *débris*, or fibers of elastic connective tissue in the urine. In all cases of suspected nephro-phthisis a thorough examination of the epididymis, testicle, and especially of the prostate gland and seminal vesicles, should be made, as a nodular or hardened and knotty condition of these organs would strengthen the suspicion, especially if associated with progressive wasting, hectic, hæmaturia, and lumbar pain or tumor. The following case illustrates the general features of this rare affection perfectly, and is the only one I have seen:

C. M., aged thirty-seven, an Irish laborer, single, and perfectly continent; had enjoyed perfect health until October, 1882, when he experienced some difficulty in urination. A few weeks after he fell, striking his perinæum on a wheelbarrow and bruising his penis. Considerable swelling and inflammation followed, and lasted for two months, when he was circumcised for a phymosis which had developed. In the following July, or nine months after the initial symptoms, he came under my care. During this interval he had become emaciated and anæmic, and complained of constant pain in the head of the penis, with great tenderness over the pubes, and other symptoms of cystitis.

He had a deep-seated spasmodic stricture, admitting only a 7½ F. tunneled sound, and rectal examination showed an enlarged and tender prostate. This fact, together with the age of the patient (thirty-seven), and the absence of any history of gonorrhœa—especially as during the next few days he developed an evening temperature varying from 100·5° to 103°, chills, night-sweats, and colliquative diarrhœa—led to the diagnosis of tubercular disease of prostate and bladder, with probable extension of disease to kidneys. Between this time and September 1st, about six weeks, the patient sank steadily, with occasional intermissions of a few days, when his symptoms seemed to improve under treatment.

His morning temperatures were normal, the evening varying from 102° to 103·5°. Repeated examinations of his lungs failed to reveal any pulmonary difficulty. Early in September he began to have a muco-purulent expectoration, and slight dullness was discovered at the apex of his left lung, with infiltration of bases of both sides.

September 8th.—Rectal examination revealed the prostate larger than at previous examination, and studded with small nodules; no softening. His cough had become distressing, and his expectoration profuse and purulent. By the end of the month he had sunk into a semi-comatose condition, was extremely emaciated, and died, exhausted and worn out by his sufferings, on the 29th of the following October, just a year from the supervention of his first symptoms.

At the autopsy the lungs were found to be the seat of general tubercular deposit, and contained several cavities. The alimentary canal and mesenteric glands were normal.

Both kidneys were tubercular, the left, however, containing only a few caseous foci, averaging about 1 cm. in diameter, while the right was one mass of disease. All the pyramids had been converted into cheesy, tubercular masses. Only a few points of healthy tissue remained, and these were limited to the cortex. The pelvis and ureter of the right kidney were also tubercular and thickened, their mucous membrane being converted into a soft, cheesy layer. The bladder contained a greenish muco-pus, and its membrane was thickened, degenerated, and studded with small nodules from 1 to 2 mm. in diameter.

The prostate was also tubercular.

This case undoubtedly began as a tubercular affection of the prostate or bladder, and ended with tubercular kidney and pulmonary phthisis. I quote it because it is so pure a type of its class, occurring in a perfectly healthy temperate man of middle life, and probably aggravated by the injury to his generative organs consequent on his fall. Had the original starting-point of his disease existed as a cheesy deposit in his epididymis or testicle, the result would have undoubtedly been the same, and this is the point to which I am anxious to draw attention, because I believe that upon its recognition depends the safety of many patients afflicted with tubercular epididymitis or orchitis. Authorities all recognize the undoubted relation between the two diseases. Ebstein says: "Sometimes the caseous inflammation begins in the mucous membrane of the bladder, and thence extends uninterruptedly through the ureters to the kidney. In exceptional cases the prostate may be the starting-point of the disease. By far the most frequently, however, the primary cheesy inflammation is seated in the testicle and epididymis, and the process is conducted to the kidney, either by direct continuity of tissue—the spermatic cord, prostate, bladder, and ureters being in turn involved—or discontinuously, one or all of these parts remaining unaffected."

With this view Van Buren, Roberts, and other writers agree, and the pathological text-books are filled with clinical evidence supporting not only this view, but that which regards caseous foci of the genito-urinary system as extremely liable to be followed by general or pulmonary tuberculosis, and yet the treatment of the primary lesion based upon this conclusion seems singularly inadequate from a surgical point of view. Iron, tonics, cod-liver oil, hygiene, and fresh air are universally recommended, with the hope that the patient may recover his general health, and so find a termination to his disease; or that the formation of a capsule about the caseous masses, thus preventing absorption of infecting substances, or the rarer termination in cretefaction of the inflammatory products, remove their power to injure.

How little dependence can be placed upon these hopes in the great majority of cases so treated, experience amply testifies. Sooner or later the patient develops a progressive series of symptoms, whose beginning and end we are all familiar with: Inflammation of the organ involved, breaking down of the cheesy masses, destruction of the surrounding tissue, abscess, ulceration of the overlying integument, prolonged and exhausting suppuration, during which the patient is in constant danger from the supervention of tuberculosis of the kidney or lung, and terminating finally in the removal of the organ involved, when, perhaps, the other testicle is already affected, and the patient's shattered health renders him unable to withstand the inroads of a fresh disease. Certainly, if good results are occasionally attained by, or rather in spite of, the treatment just mentioned, they are found among the wealthier class of patients, whose means enable them to secure all the benefits which may accrue from removal to fresh country air and abandonment of all depressing influences. In this class, however, the disease is comparatively rare, and it is among the poorly nourished and badly housed patients who seek our charitable institutions that it is commonly found. To the latter neither time nor opportunity is afforded for "leading an easy out-door life in the country," or "fleeing to the sea-side or a Southern climate." They can not even, as one author recommends, "observe all the conditions of physical hygiene suitable to tubercular cases," and, as the same author fitly observes, "their case is sad indeed." All practical physicians know how small a proportion of those suffering from pulmonary phthisis receive any marked benefit from residence in a hospital ward; indeed, in many cases the moment of admission marks a fresh invasion of the disease or exacerbation of symptoms already existing. What is *generally* true of these cases is *especially* so in regard to tuberculous disease of the genito-urinary tract, and expectant or simply local treatment usually ends in disappointment.

It is for this reason that I believe the treatment of tuberculous testicle should be that of strumous disease of any other gland, and that early removal, either of the caseous masses or of the whole diseased organ, should be more generally practiced than at present.

The first indication—that of removal of the cheesy masses—may be easily accomplished by means of the blunt curette, used through an incision over the softened masses, and can be practiced at an early stage of the disease, and in cases where, for any reason, the more radical operation of extirpation of the testicle is not practicable. This has been recommended and successfully practiced by Professor Humphrey, of Cambridge. After turning out the masses, he thoroughly cleanses the cavity, applies nitrate of silver freely to its walls, and then plugs it with lint to encourage suppuration and healthy granulation. This treatment is an advance on the simple expectant plan, and in accord with modern ideas as to the infectious qualities of cheesy or tuberculous matter; and most excellent results are reported from its employment. It is, however, only adapted to a limited class of cases—those seen early enough to encourage the hope of complete removal of all diseased structures, or, as in case of disease of both testicles in an advanced stage, where it is practiced with the idea of modifying discharge, and so contributing to an improved condition of health. If this measure fails, it seems to me that, in all cases of those who are unable, for any reason, to avail themselves of every means generally used to combat tuberculous disease, extirpation of the testicle should at once be practiced, since, radical as the measure is, it is the one attended with least danger to the patient, and restores him most rapidly to complete health and usefulness.

How quickly and easily convalescence follows, even when the disease is progressing rapidly, the following case will illustrate:

A carpenter, nearly sixty years of age, while lifting a heavy package, noticed a sudden pain in his left groin. He paid but little attention to it at the time, but in two weeks the left testicle had enlarged to the size of a small hen's egg, and was tender to the touch. His general health had always been perfect, and there was no specific or tubercular history. March 27, 1884, *just six weeks after the accident*, he entered my service at St. Mary's Hospital. One week from the time of his admission, as his history and symptoms pointed toward acute strumous disease, I made an exploratory incision, having first explained to the patient the possibilities as to the loss of the testicle.

The epididymis was found converted into a sac, containing granular and cheesy *débris*, floating in flocculent pus. In view of the patient's age, his position as chief support to his family, and especially the danger to him of a prolonged residence in a hospital ward, I at once removed the testicle, using a catgut ligature upon the cord, and closing the wound with horse-hair sutures. A drainage-tube and the usual naphthalinated dressings were applied.

In spite of his age, and the fact that the wound did not heal so rapidly as is usual under more favorable circumstances, he was up and about the ward in two weeks, and was discharged from the hospital at the end of another, or just three weeks from the day of operation, having never had a temperature higher than 99° during his convalescence.

The microscope showed the tubules which form the *coni vasculosi* of the epididymis completely choked with disintegrating strumous material, and the connective tissue of the organ in great excess. No miliary tubercle proper was found, probably because the inflammatory process was of so acute a character that it had not yet been deposited.

The patient was again at his work within a few days, and has been ever since, with no return of symptoms. Yet who shall say that the outcome of his disease would have been so fortunate a one for him if to a merely expectant and tonic treatment had been added the injurious influences of hospital life.

It certainly would seem that, in view of all that is known of the infectiousness of tubercle, of the danger to patients in whose tissues caseous masses are breaking down, and especially in view of the direct relations which have been shown between strumous testis and tuberculosis of the kidney or lung, some more effective treatment than that generally advocated should be adopted, and that the rules which are now applied to tuberculous or strumous glands and joints should be allowed at least equal weight in deciding the operative treatment of tubercular testis.

Note.—On the evening succeeding the one on which this paper was presented before the Medical Society of the County of Kings, Professor Dennis read his very practical paper before the New York State Medical Association, and it was published in this journal for December 27, 1884. In the presentation of his first illustrative case he gave a text quite as powerful as the one recorded above for the enunciation of the views here maintained. Surely the early removal of caseous testicles would do something toward lowering the mortality shown by the statistics alluded to in his closing remarks.—F. W. R.

THE SURGICAL TREATMENT OF LUNG CAVITIES.*

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The want of success in treating lung cavities by internal remedies has induced some physicians to try local treatment by surgical means.

W. Koch, E. Fraenkel, Jablonowsky, Hiller, Pepper, and Mosler tried to cure lung cavities by making injections through the thoracic wall into the diseased part of the lung with solutions of carbolic acid, salicylic acid, and iodine.

These trials, made in different parts of the world and by different men, have all been unsuccessful, if applied to tubercular cavities or such as were complicated with tubercular disease.

Mosler and others tried to aspirate the contents of lung cavities, and injected medicines afterward, but had no better result.

After these failures Mosler took up the old plan of opening lung cavities. He hoped to obtain better results by evacuating their contents, establishing thorough drainage, and applying antiseptic dressing.

The opening of lung cavities had been first proposed by Baglivi, 1664 and 1696; again by E. Barry, of Dublin, 1726 and 1763, who professed to have cured several consumptive patients; Sharpe, 1766; Ponteau, 1783; and a number of others.

Lung eavities threatening to burst open were incised or punctured by Brechet, 1831; Macleod, 1836; Claessens, 1839; Hastings and Storks, 1844; Herff, 1844; Collins, 1855; Mosler, 1873; and Pepper, 1874.

At the request of Professor Mosler, Hueter operated on a patient, forty-nine years old, who had been treated about five years for a bronchiectatic cavity in the upper lobe of the right lung, who had had several attacks of hæmoptysis, was very much emaciated, and had albuminuria in consequence of amyloid degeneration of the kidneys.

Hueter operated July 2, 1873, in the following manner: He made an incision, through the integument and intercostal muscles, on the upper border of the third rib, about three centimetres long, and about five centimetres and a half from the sternum. He found the pleura adherent, and pushed a dressing-forceps slowly through pleura and lung until he reached the cavity; he then enlarged the opening. Hæmorrhage did not occur. A large silver drainage-tube was introduced into the cavity, and fastened externally by strips of adhesive plaster. Carbolized dressing was applied to the wound, and over it an ice-bag. Patient bore the operation well.

In the evening the temperature was 37·8° C., pulse 84, respiration 36.

Pus discharged freely through the tube, especially during coughing fits. The dressing was changed several times a day. Cough and expectoration diminished soon.

July 12th he had a slight hæmorrhage. A dilute solution of liquor ferri sesquichlorati was inhaled, and the hæmorrhage ceased. Subsequently a dilute solution of carbolic acid with iodine was passed through the tube into the cavity by means of an atomizer.

Injections of a solution of permanganate of potassium, made with an irrigator, were not well borne; they caused oppression and fever.

Mosler reported the case at the Medical Congress at Wiesbaden, 1873. The report drew general attention to the local treatment of lung cavities, and encouraged others to make new trials.

However, the strength of the patient failed, owing to albuminuria. His condition was much aggravated on October 3d He rapidly declined, and died October 5, 1873. Post-mortem examination revealed the presence of tubercles in the left lung, a large cavity in the upper lobe of the right lung, of irregular shape, communicating anteriorly with the channel which had been occupied by the drainage-tube. The cavity was filled with a yellowish, thick fluid. On pressure, the cut surfaces of the lower lobe discharged a watery fluid tinged with red, and tubercles were found. Spleen and kidneys showed amyloid degeneration.

January 14, 1875, Hueter operated on another patient of Mosler's. The patient had a large bronchiectatic cavity in the upper lobe of the left lung.

The operation was performed in the same manner as in the first case.

During the treatment, medicines in liquid and pulverized form were introduced through the drainage-tube. Granulations developed in the cavity; it became necessary to shorten the drainage-tube; finally it could not be introduced, and, after a short time, air and secretion ceased to be discharged from the wound.

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* Read before the Medical Society of the County of Kings, November 18, 1884.

The tympanitic sound on percussion and gurgling râles had disappeared from the locality where the cavity formerly was. There was no tenderness on percussion. A gradual drawing in of the surface took place, and retraction of the lung from the heart, whose area of dullness increased. The patient gained strength and considerably in weight. He made no complaints, and was discharged from the hospital in the latter part of March, able to resume work.

Apparently the operation had been successful. Unfortunately, the disease returned after the lapse of eight months. The patient applied for readmission to the hospital.

On examination, it was found that the disease had returned in the left lung and extended to the upper lobe of the right lung. The cough was persistent, and the expectoration copious and puriform. Patient had albuminuria, and no appetite. Colliquative diarrhœa set in; the destructive action progressed rapidly in both lungs, accompanied by high fever and dropsical symptoms; his strength rapidly failed, and he died March 25, 1876.

Post-mortem examination showed general tuberculosis, with amyloid degeneration of many organs.

The fatal termination of this case seems to prove conclusively that lung cavities due to or complicated with tuberculosis can not be cured by incision and drainage.

Other diseases have been treated with more success, especially echinococcus, abscess, and gangrene of the lung.

Professor Mosler treated a patient in 1875, who had an echinococcus in the right lung, with injections of carbolic-acid solution, and cured him.

Another patient was admitted July 6, 1882, with fever, pain in the chest, hæmoptysis, and spasmodic cough, which brought up large cysts. Dullness on percussion over the base of the right lung from the axilla to the spine. Breathing indistinct, at some points bronchial, and some râles.

Liver not enlarged. After inhalation of eucalyptus oil he expectorated, from July 7th to 13th, nineteen cysts, from the size of a pea to that of a hen's egg.

Vogt operated July 18, 1882, at the request of Professor Mosler, in the following manner:

Removed about 4 cm. of the sixth rib by subperiosteal resection at the place indicated by the physical signs. The pleura was adherent. A trocar of medium size and about as long as a finger was thrust into the lung in three different directions, hoping to be able to evacuate the contents of the echinococcus cyst. Only a small amount of frothy blood appeared. The operation was suspended. The wound healed under antiseptic dressings, without further complication, in twenty-four days.

The cough was very much diminished. No more cysts had been expectorated. Apparently cured, he was discharged August 28th.

About the middle of September he coughed up a large cyst, and twice again during the following week. He was advised to return to the hospital, and had not the least hesitation in submitting to another operation.

October 20th, Vogt operated again, after resection of a piece of the seventh rib. He used the thermo-cautery and pushed it through the pleura into the lung. The operator explored the funnel-shaped opening in the lung with his carbolized finger, and felt in the lower lobe what seemed to be a tense bladder. The thermo-cautery was pushed down deeper, hoping to reach the echinococcus cyst and evacuate it. This did not occur. The funnel-shaped opening in the lung was carefully syringed out, a large drainage-tube put in, and antiseptic dressing applied. The operation lasted about one hour. Evening temperature was 37·8° C., pulse 88, respiration 20. No elevation of temperature occurred later. The pneumonic fistula was washed out daily with a one-per-cent. salicylic-acid solution, followed by antiseptic dressing. Granulations developed very soon in the wound. No more echinococcus cysts have been discharged from the wound, or coughed up. On the 1st of December the wound had healed, and the patient was discharged on the 10th.

March 1st he was engaged as nurse in the hospital, and works hard without inconvenience from the lung.

Fenger and Hollister, of Chicago, reported a case of echinococcus of the lung, which caused a large abscess in the middle lobe of the right lung, complicated with gangrene.

The history of the case was published in the "American Journal of the Medical Sciences," and I will only state that the treatment was successful.

Two openings were made, a drainage-tube was drawn through, and the cavity washed out.

While this was done the patient had very severe paroxysms of cough, and the cyst of the echinococcus became loose, was discovered, and removed.

The cavity was washed out every day, and antiseptic dressing applied to the wound. Operation, December 26, 1880.

Patient was cured, and discharged from the hospital April 7, 1881.

There can be no doubt that the operation is indicated in many cases of abscess and gangrene of the lung, as there is but little prospect of recovery without it. It may be very difficult to form a correct opinion whether, at a given time, a spontaneous cure by the efforts of nature may be expected or not; but the operation should not be delayed until the vital powers are too reduced to admit of recovery. Cavities in the supra- and infra-clavicular regions, or in that part of the lung covered by the scapula, do not come within the sphere of operative interference.

Cavities in the mammary, axillary, and infra-scapular regions can be reached.

An important question is, whether the operation is to be continued or abandoned if no pleuritic adhesions are found.

It would be rash to open the pleural cavity and run the risk of causing an acute pyo-pneumothorax, which might result fatally.

Fortunately, adhesions are generally found in cases that require surgical treatment. Their presence or absence can be ascertained by pushing an exploring-needle through the intercostal muscles and pleura into the lung. If it does not move synchronously with the respiratory movements, it is certain that adhesions are present.

It is advisable to make several explorative punctures and aspirations before operating, in order to ascertain the exact position of the cavity, its depth, and the character of its contents.

If the cavernous signs are confined to a small area, the incision has to be made there.

If the cavity is large, it is preferable to make two openings.

One at the point of easiest access; it should be large enough to admit a finger, which should be introduced to make a careful exploration of the cavity. It must be ascertained whether any loose pieces of dead tissue are in the cavity, and where the most favorable point is for the second opening, which should be as near as possible to the lowest part of the cavity.

If only one opening is made, a double drainage-tube should be used, as it facilitates the washing out of the cavity.

The incision through the integument and intercostal muscles should be about two inches long, to give ample room. After division of the integument and muscles, the knife should be used no longer; the pleura and lung tissue should be perforated with a blunt instrument.

Hueter and Fenger used a dressing forceps for the purpose. After reaching the cavity, they enlarged the opening by separating the blades of the forceps. The thermo-cautery is to be preferred for this part of the operation; its employment diminishes the danger of hæmorrhage.

The cavity has to be washed out, especially if fœtor is present.

Lycll used Condy's fluid. Most of the other operators used solutions of carbolic acid. Carbolic acid is so prone to cause poisoning, if used in this manner, that it is preferable to use salicylic-acid solutions; or, if more energetic action is needed, chloride-of-zinc solutions.

Thymol seems to be too irritating to the bronchial mucous membrane. In one of Professor Mosler's cases a sudden change for the worse occurred after an irrigation with a thymol and boric-acid solution.

The dressing should absorb the discharge readily, and must be changed as frequently as the amount of discharge necessitates. If possible, the dressing should be arranged in such a manner as to require but one change in twenty-four hours, because frequent changes disturb the patient too much.

Professor Mosler made out a list of nineteen operations on lung cavities performed and reported since 1873. As the list has not been published in English, I translate it, and add it here:

1. Mosler and Hueter, 1873—Bronchiectasis, incision, drainage.
2. S. Sutton, 1873—Abscess, incision, drainage.
3. Mosler and Hueter, 1875—Bronchiectasis, incision, drainage.
4. Radek, 1878—Abscess, incision.
5. Cayley and Lawson, 1879—Gangrene, incision, drainage.
6. Sedgewick, 1879—Abscess, paracentesis.
7. S. C. Smith, 1880—Gangrene, incision.
8. Douglas Powell and R. W. Lycll, 1880—Bronchiectasis, paracentesis, drainage.
9. Fenger and Hollister, 1881—Echinococcus, gangrene, incision, drainage.
10. E. Bull, 1881—Gangrene, incision, drainage.
11. G. Finne, 1881—Abscess, incision.
12. Albert, 1881—Bronchiectasis, thermo-cautery.
13. O. Sommerfeldt, 1882—Tubercular cavity, paracentesis, drainage.
14. H. Payne, 1882—Abscess, incision.
15 and 16. W. Koch, 1882—Bronchiectasis, gangrene, thermo-cautery.
17. Mosler and Vogt, 1882—Echinococcus, thermo-cautery.
18. Mosler and Vogt, 1882—Bronchiectasis with gangrene, thermo-cautery.
19. C. F. Williams, 1882—Bronchiectasis, incision, drainage, trocar.

NATURE OF THE CAVITIES.

Abscess of the lung, 5.
Gangrene of the lung, 5.
Tubercular cavities, 2.
Bronchiectasis, 5.
Echinococcus of the lung, 2.

MANNER OF OPERATION.

Once repeated punctures.

Twice paracentesis with trocar and drainage.

Eleven times incision and drainage.

Five times thermo-cautery and drainage.

Thirteen patients died a shorter or longer time after the operation.

Two patients were considerably improved.

Three patients were permanently cured (two of echinococcus and one of gangrene with empyema).

In one case the result is not known.

A CONTRIBUTION TO THE STUDY OF CHOREA LARYNGIS.*

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There is about chorea laryngis, as an independent affection, a vagueness and uncertainty which has attached to its prototype for more than four centuries. Chorea is, in fact, a term convenient but unfortunate; of dubious parentage, of uncertain application, and of unestablished pathology, There is, therefore, about almost any case room for two opinions, and I premise my remarks by the statement that the one now presented is not fully covered by the term chorea laryngis, although at one stage of its progress it would have been styled by an observer a typical case. The spastic inco-ordination, or inequipollence of muscular action, the insanity (as Watson has called it) of the muscles, was well marked, and particularly was the resemblance to ordinary chorea emphatic, in that the perturbance of motion was present without voluntary effort at phonation as well as during the attempt. The antecedent history of the patient gives the case a significance which I trust will justify its selection as a subject.

Dr. S., a physician, fifty-seven years of age, of healthful appearance, and of vigor sufficient, up to this attack, to carry a large practice, the personal management of a great number of rented houses owned and acquired by his profession, an active member of the City Aqueduct Board, and at the same time manager of a flourishing drug business (all of which are mentioned as bearing on the case), noticed, January 1, 1883, a gradually increasing dysphonia, and in two weeks became completely aphonic, without cough, difficulty of swallowing, or pain.

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* Read before the American Laryngological Association, May 14 1884.

The first note on my record, made January 15th, two weeks after the first symptom, states: "pulse weak and small, posterior surface of epiglottis and anterior wall of larynx subacutely inflamed, all other parts of larynx normal." Four days later, under treatment, the inflammation had almost subsided, but a loss of power in the tensors of the cords was well marked. On the 22d this impairment was less notable, but the inflammation had returned, painless but bright in color, and with a margin as defined as is seen in erysipelas or erythema, still confined to the anterior wall and epiglottis, which were hyperæsthetic, and suggested herpes of the mucous membrane. There was some general debility. Twenty-two days from the first aphonia, examination showed irregular choreic inco-ordination clearly and singularly marked without effort at phonation, slightly quieted by an attempt to speak, but increased upon prolonged effort, hyperæmia gone, and the various parts of the larynx of normal appearance. Dysphonia now well marked, as might be expected, but at this time no phonetic spasm.

This condition persisted for several weeks, and for how much longer I am unable to say, as the doctor went to the seaside and subsequently to the mountains, and passed for a few months from observation; but, for the several weeks mentioned, the laryngoscopic appearances were singularly suggestive of the general chorea as seen in young people at puberty, especially as regards the irregular action when no volitional effort was directed to the parts.

The thyro-arytenoids, the arytenoids, and the crico-arytenoids seemed endowed with independent life, twitching and starting in a most erratic manner. There was no peculiar cough, barking or stridulous, for there was not sufficient coordination to produce these, nor was the patient conscious of this choreic condition, the inability to speak aloud being the only inconvenience.

In this there was no change at any of the localities visited, although the general health was manifestly improved; nor was there outward evidence of change for a year from the incipiency of the trouble.

At this time, January, 1884, the choreic incoordination had disappeared. There was still aphonia, and, although there was no actual paralysis, the tensors were evidently weak, and the laryngeal mucous membrane was of somewhat diminished sensitiveness.

This weakness was progressive, and, in March of the present year, fifteen months after the beginning of the trouble, in spite of a variety of treatment, there was paresis of the thyro-arytenoids and spasm of the lateral crico-arytenoids.

At this stage he was examined, at my request, by Dr. Elsberg and Dr. Lefferts, as he manifested the singular phenomenon of *inspiratory phonation*. Only with great effort and pain could he form a single syllable on expiration, and his efforts to do so while under examination by the gentlemen named, combined, perhaps, with exposure to cold, produced so great exhaustion as to confine him to his room for nine days, at which time he took passage for Florida.

Omitting, for the sake of brevity, all unimportant features, I would state that, when examined on his return on the second of the present month, the following condition existed:

Slight redness of vocal bands, no paralysis, but upon protracted effort at phonation a tendency to spasm of the lateral crico-arytenoids. Phonation in a low tone, good for a few sentences only, then dysphonia, with tendency to facilitate respiration by elevating the arms over the head. General condition good; no cough. Careful examination of the thorax showed no evidence of aneurysm, enlarged glands, or cardiac disease, and a high-pitched percussion note and impaired respiratory sounds at the apex of the lung, formerly the seat of disease, were the only morbid or abnormal conditions.

There has been at times, however, a pain in the spine opposite the ganglion of Wrisberg, and also in the epigastrium, which seemed suggestive in connection with the tendency to elevate the arms already mentioned.

No evidence or suspicion of central cerebral disturbance. *A most important feature is this: In a dry, clear, elevated atmosphere all symptoms disappear.*

The previous history is important. On several occasions during the past twenty years the health has been impaired by overwork. The first attack that came to my notice was an apex pneumonia with hæmoptysis, not severe, but accompanied by the usual symptoms, and complete recovery with adhesions.

About ten years ago he had a prolonged and violent attack of the trouble originally well described by Da Costa as "irritable heart." For several days this was mistaken for endo-pericarditis, but sphygmographic observations, with careful physical examinations, eliminated the inflammatory element, and the affection was defined and ascribed with probable correctness to the inordinate use of quinine (twenty grains daily for six months) just prior to the attack. The action of the heart for several weeks was arhythmic and irregular, and corresponded to the description of cardiac chorea spoken of by some authors, but which seemed to me more correctly to be defined as "irritable heart."

Now, in reviewing this case, we have in a man past middle life a laryngeal hyperæmia and hyperæsthesia; a gradually developed inco-ordination peculiarly choreic, in that there was a long-continued insanity of the muscles persistent even without effort at phonation, slowly resulting in paralysis of one set of muscles and spastic contraction of another, the latter, as you are aware, being one of the possible results of long-continued chorea.

We even have the suspicion of cardiac disease so frequently connected with chorea, to which such manifestations have by some authors been ascribed.

Nor is the theory of Hughlings Jackson as to the pathology of chorea (the plugging of the vessels that supply the corpora striata) to be lost sight of in this connection, since we might well suppose lesion of the kinesodic tracts a factor in producing the paresis and spasm of muscle here exhibited.

More plausible still is the idea of chorea in connection with the views of Dr. Dickinson, with whose valuable paper, read in 1875 before the Medico-chirurgical Society, you are doubtless familiar. I beg leave to quote: "Post-mortem observations show a general tendency to dilatation of the smaller vessels, especially the arteries throughout the substance of the brain and cord, attended with exudation into surrounding tissues, in some cases patches of sclerosis, and in some small hæmorrhages most advanced in the corpora striata." His conclusion is that chorea depends on a widely spread hyperæmia of the nervous structures, and that the subsequent paralysis is explained by the tendency to sclerosis, a condition not unreasonably to be inferred in this case from the patient's history.

We are also reminded, by the localized herpetic hyperæmia of the larynx which accompanied and probably preceded the choreic disturbance, of the superficial spinal reflexes which cause contraction of special muscles when the cord is healthy, and which, when the irritation is prolonged, may produce irregular action.

With all this, however, it is manifest that we should not clearly define the case by the term chorea laryngis, except in so far as it describes a condition grafted upon some other affection of the system, using the term precisely as we use the words aphonia, cyanosis, or anæmia.

In all cases of persistent and irregular action of the laryngeal muscles, irritation is an essential factor; but in our search for a cause we are not so restricted as in a general chorea, inasmuch as the anatomical nervous structure of the supply, while complex, is restricted in area.

Theoretically, the irritation should be either at the origin of or at some point in the distribution of the pneumogastric nerve, or in the course of its branches; and, as experience has demonstrated that most of the motor perversions from such irritation are symmetrical, we have the multitude of peculiar coughs, clonic spasms, or aphonias, and but few evidences of inco-ordinate action essential to chorea. If central, as from minute emboli, effusion, or hyperæmia, we should be quite likely to have development of symptoms at the ultimate distribution of the pneumogastrics, the heart, the lungs, or the stomach. If originating in the mucous membrane of the larynx, the apices of the lungs, the glandular structures which might press upon the laryngeal nerves, the stomach, or the heart, the motor distribution through the laryngeal nerves might alone be affected.

If we accept either of the prominent theories of Dickinson, Hughlings Jackson, or Brown-Séquard, as to chorea, the character of the central lesion could hardly affect alone the distribution of the laryngeal motor nerves, and in any given case, therefore, we should give preference to the belief that the trouble was reflex. In most cases, indeed, we should be justified in giving preference to a proximate and superficial, and not a remote or deep reflex, since in the latter case, as in enlargement of bronchial glands, aneurysm, cardiac hypertrophy, etc., we have a grosser irritation and the familiar short cough, or the not infrequent aphonia with no incoordinate action.

In reviewing a considerable experience with cases of chorea, I have been struck with the variety of localized choreic manifestations—for example, of the trapezius of one side; of the eyelids of one side; of groups of or single muscles in an arm or leg, on the thorax or abdomen; in boys and girls at puberty, in the levatores and tensores palati, where the contraction gives rise to the production of strange guttural noises; but in all these there has been either organic change, or the general condition and aspect of the patient have been suggestive of such trophic disturbance as justified the term chorea, and this in direct proportion to the avolitional character of the muscular motion.

Inco-ordination occurring when the will is directed to the parts suggests that still more indefinite affection—hysteria, or the lesion of sclerosis, where, indeed, the distinctive peculiarity is incoordination *only* upon volitional effort.

In any chorea we expect a lowered state of the nervous system, the absence of a direct irritant (for the convulsive twitching of the muscles of the shoulder from a bullet imbedded in the palm while choreic is certainly not chorea), and a choreic condition or tendency which would be manifested at times in other parts of the body; and to apply the term to a laryngeal inequipollence we might well proceed as in general chorea.

In the one case we eliminate the saltatory phenomena as belonging to emotional insanity or hysteria—the electric chorea of Dubini, the myelitis convulsion of Hörtel, the tarantism of the sixteenth century, and the tigretier of Abyssinia—as phenomenal, although choreic exhibitions of hysteria, and also the countless movements from the uncontrollable gigglings and grimaces most familiar, to the jerks and starts of the epileptic which have been included under the name.

In chorea laryngis we can, without violence, in a similar way eliminate most of the peculiar barking coughs often hysterically contagious—the asynergy of Krishaber common in laryngeal tumors, the spasmodic laryngeal cough arising in subacute laryngitis upon change of position, the laryngismus of tubercular meningitis or effusion, the reflex spasm from goitre, and a multitude of temporary phenomena often conveniently termed chorea laryngis—and approximate the definition of a doubtful term as "a morbid manifestation or condition with two essential qualities":

1. Ability to produce, but inability to protract, co-ordinate action.
2. Irregular and unequal action, without as well as with volition.

These may arise from either of three sources:

1. A choreic temperament and condition, with tendency to manifestation in other groups of muscles—i. e., a localized manifestation of general chorea.
2. A trophic impairment developed in the course of some other affection or disease.
3. Irritation of the laryngeal mucous membrane, or of the terminal filaments of the pneumogastrics—the one a superficial, the other a deep reflex.

To either, and, perhaps, to both the latter, the case today presented belongs—a chorea laryngis, yet presenting the idea of a symptom only, instead of a distinct disease.

Still, I do not believe with Massei that we should discard the term because it describes a condition and not a disease. Asthma is not the less a veritable affection because the term is misapplied to cardiac or gastric dyspnœa, to pulmonary œdema, bronchitis, or aneurysm; and chorea laryngis, while, like its prototype, most frequently a functional and symptomatic disorder demands nevertheless a name, and we will accomplish much if we secure for it correctness of application.

GONORRHŒA IN THE FEMALE.

By ANDREW F. CURRIER, M. D.

When we consider the frequency of this disease, the grave complications and sequelæ which attend and follow it, its extreme communicability, and the thought and attention which have been directed to its counterpart in the male sex, it seems very strange that the knowledge concerning it, as enunciated in the text-books, should be so comparatively meager and unsatisfactory. Whether we consult the works on general surgery, venereal diseases, or gynæcology, there is everywhere the same evidence of unsatisfactory and imperfect investigation and knowledge.

With the development and subdivision of medical science, there was good reason for expecting more thorough work and better results than under the old plan. Such results have been obtained, and, in proof of this assertion, it is only necessary to point to the achievements of gynæcology. It remains for gynæcology to make a further contribution in the shape of an exhaustive and satisfactory treatise upon gonorrhœa in the female. The present moment is propitious for such a work, inasmuch as the limit seems to have been reached, in so far as operative gynæcology is concerned. I say that this work belongs to gynæcology, and a moment's reflection will reveal the correctness of the statement; for, first, the gynæcologist acquires a *peculiar* education with reference to the anatomy and pathology of the female pelvic organs; second, in these days in which gynæcological clinics are multiplied, females suffering with disease of the pelvic organs no longer go to a clinic for general medicine (I am speaking now of public practice, from which much of our most valuable experience and information comes). It is as reasonable that they should go to a gynæcologist for all such troubles as to an ophthalmologist for disease of the eyes.

To define my subject is not an easy matter. The most recent author upon the subject of gonorrhœa in general (Milton, "On Gonorrhœa," Wood & Co., New York, 1884) considers it as "a purulent discharge due to connection, or to the contact of infecting matter originally secreted by the mucous surfaces of the genital and urinary passages, and reproducing the same in another, who can give it to a third."

While this definition is faulty and lacking in comprehensiveness, the notable feature of the contagious character of the *disease* is sufficiently prominent. In addition to this characteristic, it may be considered as an inflammation of the mucous membrane of the genital tract, especially of the vagina, but also of the urethra, vulvo-vaginal glands, vulva, cervix and corpus uteri, and Fallopian tubes. It is susceptible of various complications, some of which are mild and others severe in character. It may run a very acute or a decidedly chronic course. It will be observed that I have refrained, in this definition, from any dogmatic utterance as to the so-called specific character of the disease, or any other peculiarities which may still be under discussion. One reason which is sometimes urged by writers upon this and kindred subjects, for the ignorance regarding female gonorrhœa, is the difficulty which is generally experienced in recognizing it. Without a clear history of infection, with a want of familiarity as to the phenomena presented by other morbid conditions of the female genital organs, especially with regard to their mucoid discharges, the diagnosis is indeed difficult, and furnishes additional reason for requiring from gynæcologists a solution of the question. It is to be hoped that this paper will at least furnish a stimulus to the investigation of a subject which is at once so interesting and so important. A typical clinical picture of the disease can not be given; its forms and phenomena are too varied. As a recent French writer said of one group of its forms, "*il y a vaginite, et vaginite*" (Gallard, "Gaz. des hôp.," 1883, p. 113). A very common picture resembles the following: Within two or three days after the infecting connection an exceedingly profuse discharge from the vagina annoys the individual, attended by frequent micturition and burning pain, and acute sensitiveness in the vagina, urethra, and vulva. Walking becomes difficult on account of pain and stiffness, and all motion increases the discharge. This is the extent of the physical sensations which are complained of, in many cases, by patients who present themselves for medical attention. An examination in Sims's position reveals a number of additional facts. To one who is accustomed to work with Sims's speculum, it is almost inconceivable that respectable results could be attained with any other, especially with that ancient and clumsy contrivance, the cylindrical speculum. This reasoning is particularly applicable, in examining a patient in whom gonorrhœa is suspected, when as extensive a field of view as possible, under the most favoring conditions of light, is to be exposed. Such an examination, according to my experience, is always very painful, and particularly when any but a Sims's speculum is used. Essential prerequisites, then, in beginning an examination, are good light, either natural or artificial (in the class for diseases of women, at the out-patient department of the New York Hospital, where I have the honor, not less than the pleasure, of assisting Dr. J. H. Emerson, artificial light is used with a forehead mirror, and with entire satisfaction), Sims's position, and Sims's speculum. However carefully the speculum is introduced, pain attends its introduction, and this is increased as the perinæum is retracted. The tissues which are thus brought into view are hot to the feel and œdematous; the mucous membrane is everywhere of a dark, dirty-red appearance, looking and feeling more like *wet hemlock leather* than anything to which I can compare it. A muco-purulent discharge, of a dirty-white or greenish-yellow color, tinged, in many cases, with blood, bathes the underlying surface of the vagina. A circle of erosion of varying diameter is frequently present, especially in multiparous patients, around the os uteri, and from the latter proceeds a somewhat tenacious discharge, less pronouncedly purulent in character than that which is seen upon the floor of the vagina. These phenomena, in my experience, have been tolerably constant when the disease is seen in its early acute stage. Less constant are venereal warts, tumors of sebaceous glands, and boils or abscesses upon and contiguous to the external genitals. Thomas, in an excellent short article upon female gonorrhœa (Thomas, "On the Diseases of Women," Philadelphia, 1880, p. 215), quotes Salmon's statement regarding the frequency of inflammation of the vulvo-vaginal glands as an accompanying condition, and Gross makes a similar assertion (Gross, "System of Surgery," Philadelphia, 1882, vol. ii, p. 943). The urethra may be tender and swollen, as appreciated through the anterior vaginal wall, and may yield a discharge like that from the vagina, or it may show no evidence of inflammation. (Upon this point see Erichsen, "Science and Art of Surgery," Philadelphia, 1878, vol. ii, p. 846; Ashhurst, "Principles and Practice of Surgery," Philadelphia, 1882, p. 438; Gross, *op. cit.;* Thomas, *op. cit.*) Von Hagemann states that in his experience at the Strassburg clinic those forms of the disease in which the urethra and the vulvo-vaginal glands were involved exceeded all others in number. Thus, of 705 cases which were observed, there was urethritis in 439 and "Bartholinitis" in 383 (von Hagemann, "Wien. med. Wochen.," 1879, p. 606). As to the inguinal glands, they are rarely affected. I have never seen a case in which they were inflamed to any extent, and can find only one such case recorded. (See Bumstead and Taylor, "Venereal Diseases," Philadelphia, 1883, chap. on "Gonorrhœa in the Female.")

The laws which govern the development and duration of gonorrhœa in the female, if such laws exist, have not yet been discovered. Otis, in the chapters of his excellent lectures devoted to gonorrhœa (Otis, "Genito-Urinary Diseases," vol. ii, p. 299, New York, 1883), agrees with Bumstead and Taylor, and Van Buren and Keyes, in considering that genuine gonorrhœa can not be aborted nor recovered from (referring especially to gonorrhœa in the male) in less than four weeks. But he denies its so-called specific character, leaving the inference that it is a simple inflammation. We know that simple inflammations are often aborted, hence we must consider his reasoning faulty when he says that a supposed gonorrhœa which is cured in less than four weeks must be a spurious one. I do not presume to question his extensive experience and mature opinion that most cases of gonorrhœa in the male do, as a matter of fact, last four weeks. If, now, the disease, *per se*, be the same in the female as in the male—and it can only differ in so far as it is modified by differences in anatomical structures—it is *possible* that it may run a short and acute course, as has been suggested concerning male gonorrhœa—supposing that the foregoing argument is a sound one. Hence there is no incongruity with facts in the assertion which some authors have made, that acute gonorrhœa in the female *may* be limited to a few days in its duration. Again, if the argument as to duration is based upon the standpoint of the specific nature of the disease, and we accept the tempting parasitic theory, *that* duration will be governed, as Sternberg and Leistikow have reasoned (though from opposite poles of belief), by the power of the parasiticide which may be used. The great difficulty in deciding as to the possible duration of acute cases, especially in dispensary practice, rests in the fact that the cases can not be followed up. Fritsch has alluded forcibly to this fact, mentioning, in conjunction, what must not be forgotten, that very many of our patients are prostitutes, who, as soon as the annoying discharge is lessened, which may be within three or four days, disappear from observation (Fritsch, "Zur Lehre von der Tripperinfection beim Weibe," "Arch. f. Gyn.," x, 470). If we flatter ourselves that they have been cured, we are following a line of reasoning which is neither exact nor scientific; but it is not improbable that much of our statistical information rests upon such a basis. The following cases will illustrate the foregoing (I am much indebted to Dr. Emerson, who has kindly placed at my disposal the records of his clinic):

Case I.—Miss X. came to the clinic in the autumn of 1883, having just arrived in the city from California. She was weak and anæmic, and complained of a most annoying, most profuse vaginal discharge, which had troubled her during her entire journey, and was as abundant when she was lying down as when she was up and about. The circumstances of the case pointed to an infectious origin of the discharge, the diagnosis of acute gonorrhœa was made, and a line of treatment was suggested. She returned to the clinic within a week, saying that she was better. Since then she has not been seen.

Case II.—Miss Y. came to the clinic in the autumn of 1883, complaining of delayed menstruation and excessive vaginal discharge. She admitted a very recent sexual intercourse, for the first time in her life. The diagnosis of gonorrhœa was made, and treatment was begun. Immediate improvement followed, but, after one or two visits, she too disappeared from observation.

Whatever the duration of gonorrhœa may be at the one extreme, I mean in the acute form, most writers are agreed that at the other, in the chronic form, it may be prolonged indefinitely. Fritsch indeed speaks very lightly, almost flippantly (Fritsch, *op. cit.*), both as to its intensity, its complications, and as to its duration; and, since he is so good an observer, his experience can be reconciled with that of many other equally reliable observers only by considering that it has been exceptional. The systematic writers already quoted say that it may last for years, and in its severer forms and complications this is entirely credible. The following case illustrates its persistency, even without severe complications:

Case III.—Mrs. W. came to the clinic September 11, 1883, stating that she was married seven years ago, and that, after living with her husband two weeks, she left him, having contracted a disease with which he was suffering at the time of marriage. She said she had been troubled with a most offensive vaginal discharge since that time, and had employed doctors, without getting permanent relief, until her money was exhausted. No history of syphilis could be obtained, nor was there any evidence of it upon her person. Her story was doubted from the fact that an examination revealed evidence of what was believed to be a fresh and exceedingly virulent gonorrhœa. She has been continually under observation since that time, being seen from one to three times almost every week. Repeatedly the case has been considered cured, and as frequently the old symptoms have recurred, the recurrence generally taking place immediately after the cessation of the menses. The cervix and vagina alone are involved, and the most relaxed and intractable surface is the mucous membrane of the posterior fornix. The case is still under observation, after eight months' careful treatment.

There is a form of chronic gonorrhœa which was first described in 1872 by Noeggerath in a paper entitled "Die latente Gonorrhöe im weiblichen Geschlecht," and again by the same author in 1876, in a paper which was read at the first meeting of the American Gynæcological Society, entitled "Latent Gonorrhœa, especially with Regard to its Influence on Fertility in Women." The ideas in these papers were new and revolutionary, and met with the severest criticism from almost all sides. They were defended by Hennig and a few others, and Hennig quotes Diday, Sigmund, and other authorities (whose original papers upon the subject I have not been able to find) as to the reasonableness of the doctrine of latent gonorrhœa (Hennig, "Deutsche med. Wochen.," vi, p. 672, "Ueber Blenorrhœa virulenta corporis uteri et tubarum"), and Noeggerath himself prophesied that observation and reflection for a few years would result in greater sympathy with his views.

As to the nature of gonorrhœa, the theorists may be divided into two camps—first, those who believe that it is simply a mucous membrane inflammation, with characteristics peculiar to the parts which it customarily attacks; second, those who believe that it is an *inflammation of a peculiar character, produced by a peculiar irritant.* It would seem as if there could hardly be any ground for discussion as to the identity of the disease in the two sexes. According to all natural laws, *like begets like;* scarlet fever can not breed diphtheria, however closely related they may seem to be, nor can gonorrhœa beget syphilis. Why should it be expected that gonorrhœa should beget anything but gonorrhœa, or, conversely, why should gonorrhœa come from anything but gonorrhœa? and yet many French writers, with Ricord at their head, insist upon the logical absurdity that a woman may communicate gonorrhœa to a man without possessing it herself. That a purely mucous or mucoid discharge in one person should induce in a sensitive mucous membrane of another, when applied to it, a condition of inflammation, is quite conceivable; but that it should produce the intense and protracted symptoms which are seen in unmistakable gonorrhœa of either sex is, at least, unreasonable. It is equivalent to considering all urethral and vaginal discharges as gonorrhœal in character, and this identity is expressly denied by such authorities as Bumstead and Taylor and Otis, the latter of whom quite rigidly insists on the so-called non-specific nature of the disease. To my mind the admission of Otis, and those who agree with him, that stricture of the urethra (of gonorrhœal origin) is responsible for a large portion of the purulent discharges which occur both in men and in women, is a virtual acceptation of the propositions of Noeggerath in regard to latent gonorrhœa, although I am conscious of their decided dissent from the same. Milton logically concludes (Milton, *op. cit.*) that only gonorrhœa can produce gonorrhœa, and quotes Durkee, Sigmund, and Auspitz in support of his position. Rollet ("Dict. encyclop.," "Blenorrhagie") and Guérin, among French writers, sustain a similar position. Ricord thinks, furthermore, that gonorrhœa may be the result of *irritating discharges* which are communicated to a woman's vagina by man number 1, and are by her transferred to man number 2. In the light of present knowledge, thirty years from Ricord's time, this is a *begging of the question.* (See an article by Rosolimos in "Ann. de dermat. et de syph.," Jan., 1883.) At all events, the term *irritating* is too vague, and may mean what Ricord did not intend it should. Ricord, Fournier, Langlebert, and others affirm, again, that gonorrhœa is due to excesses or injuries in some women, and that in others it is purely an inflammatory condition. Rosolimos, commenting upon the foregoing (Rosolimos, *loc. cit.*), maintains that excesses alone can not produce the disease, otherwise his active, vigorous Greek peasant countrymen would suffer seriously, since they, as a rule, lead chaste lives, but as bridegrooms are anything but temperate in the indulgence of the sexual appetite. It is frequently stated that the application of pus to the urethral mucous membrane will produce gonorrhœa, but Rosolimos meets that statement with the objection that pus from the kidneys and bladder does not have that effect, hence something more than pus must be necessary. The same author thinks that leucorrhœa alone is insufficient to produce gonorrhœa, but that it is competent when certain irritative properties or conditions are added. (Again I admit the indefiniteness of the term *irritative.*) Gallard remarks (Gallard, *loc. cit.*) that most Parisian young women suffer with leucorrhœa, and that it would be bad for their husbands and lovers if it were infectious.

The development of modern ideas in regard to mycology and the parasitic nature of disease is responsible for placing upon a substantial basis the theory as to the *specific* nature of gonorrhœa, by which is meant its development from and relationship to a particular cause, in place of the indefiniteness which has characterized its past history. Salisbury ("Am. Jour. of the Med. Sci.," 1868, p. 22) stated, as long ago as 1868, that epithelial tissue alone was suitable for the development and propagation of the *gonorrhœal virus*, and especially the mucous membrane of the urino-genital organs and the eyes. This virus is a cryptogam, to which he gave the name *Crypta gonorrhœa.* It was discovered by him in gonorrhœal pus in 1850, and consists of spore-like bodies, which multiply by duplicative segmentation in and out of the cells. In fresh gonorrhœal pus he found filaments, single and in knots, which emanated from the minute spores, sometimes the spores alone being found, and sometimes spores and filaments. The spores were seen, in some places in twos, in others in fours, undergoing the process of duplicative segmentation. He observed that they conduced to the rapid formation of muco-pus cells, which thus became a vehicle for their (the spores') transmission. The pus-cells, in many cases, appeared to be filled with the spores, displacing entirely the nuclei and granular matter. Drawings of the microscopical appearances of the different forms accompanied his article. This somewhat extended notice of Salisbury's paper is made as a matter of justice to an investigator whose claims in this particular field have been somewhat overlooked in the credit which has been given to more recent investigators. In 1879 Neisser, of Breslau, after a series of careful experiments, announced the *constant* presence in gonorrhœal pus of a particular form of bacterium, of the micrococcus variety, which was called *gonococcus* (Neisser, "Centralbl. für die med. Wissen.," 1879, p. 28, "Ueber ein der Harnröhrestrippers eigenthümliche Mikrokokkenart"). This parasite is identical with one which is found in purulent *ophthalmia neonatorum*, but Neisser failed to find it in pus from other sources. He usually found it in groups upon the surface of pus corpuscles, its shape being round at first, then developing into the form of a long oval. Next there was a division, with an interval between the two segments (the duplicative segmentation of Salisbury), and then elongation at right angles to the former plane of division. He (Neisser) found that this micrococcus differed morphologically and functionally from all other forms (see Neisser, "Die Mikrokokkus der Gonorrhöe," "Deutsche med. Wochen.," No. 20, 1882). Weiss was able to substantiate Neisser's statements by an analysis of pus from twenty-three cases of females and nine of males with gonorrhœa, and he failed to find gonococci in the secretions from simple urethritis, chancre, bubo, balano-posthitis, vaginal leucorrhœa, and suppurating arthritis (Weiss, "Gaz. hebdom.," "La microbe du pus blennorrhagique").

Additional confirmation was furnished by the experiments of Bokai, Brieger, Cheyne, Ehrlich, Rücker, Gaffky, Aufrecht, and others. Keyser, who has written an excellent review of the literature of this subject, to which I am indebted for much of the foregoing (Keyser, "Md. Med. Jour.," 1882–'83, ix, 481, "Is Gonorrhœa a Bacteria Disease, etc.?"), and who has also confirmed Neisser's views by his own experiments, found that the *gonococci* were most abundant in the thick, creamy discharges of the early stages of the disease. In the discharges of the vagina he found them (gonococci) associated with other bacteria, but he found no trace of them in simple urethritis. Eschbaum (Eschbaum, "Deutsche med. Wochen.," March 28, 1883, p. 187) alludes to Bokai's oft-quoted and much-doubted experiments with gonococci upon the urethral mucous membrane of six medical students, in three of whom gonorrhœa resulted, as trustworthy and reliable.

Bockhart (Bockhart, "Beitr. zur Aet. u. Path. des Harnröhrestrippers," "Sitz.-Ber. d. Wurz. phys. u. med. Gesell.," Sept., 1882) produced gonorrhœa in a paralytic, forty-six years of age, whose urethra at the time of the application was healthy. The material which was used was a culture-fluid of the fourth generation. On the second day after the application there was redness at the orifice of the urethra, and a small discharge of mucus; on the third day there was pus, and this was also found on each succeeding day. On the twelfth day the patient died from hypostatic pneumonia, and pus was found at the autopsy, being most abundant in the vicinity of the navicular fossa. Gonococci were found in all the specimens of pus which were examined, hence Bockhart considered them the *pathogenic bacteria of gonorrhœa.* Neisser and Leistikow state with positiveness that the presence of these bacteria *proves* gonorrhœa when they are found in the urethral, vaginal, or ophthalmic secretions. According to Eschbaum (Eschbaum, *op. cit.*), they are the only bacteria which are found in true gonorrhœal pus, though in other discharges from the vagina (he mentions particularly leucorrhœal discharges of malignant origin) both *rod* and *round* forms are discoverable. With regard to the identity of the bacterium of gonorrhœa and that of purulent ophthalmia, the question need not be discussed in this paper. It is sufficient to say that Sattler and other well-known ophthalmologists have established this identity.

(*To be concluded.*)

PENETRATING PISTOL-SHOT WOUND OF THE CHEST.

TWO CASES; RECOVERY.

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The mortality in this injury is stated by various authors as being from 80 per cent. to 95 per cent., the dangers being primarily hæmorrhage, and secondarily inflammation of the chest contents. In view of this, the accompanying cases present interest, they being the only cases of penetrating shot-wound of the chest admitted during a period of four months to a hospital which affords an extensive emergency service.

In each of the cases a bullet of large size entered the lung, in the second case passing entirely through it; in neither was the injury accompanied by marked hæmorrhage or followed by acute inflammation, and in each the patient made a speedy and perfect recovery.

At this hospital the local treatment of pistol-shot wounds is essentially the same in all cases: but slight attempts at probing are made; no endeavors are made to hermetically seal the aperture; a light, but thoroughly antiseptic, dressing is applied, which, in many instances, is left on until the wound is entirely closed.

Case I.—C. Z., aged thirty-eight, single, native of Germany, a silversmith, was brought to the Chambers Street Hospital in an ambulance, at 10 p. m., May 18, 1884. He had been shot in the left chest about twenty minutes previously, his assailant employing a "bulldog" revolver of ·44 caliber, and standing about fifteen feet distant.

On admission, the patient was conscious, surface cool and moist, muscles relaxed, face pale and anxious, temperature 97·5°, pulse 140 and feeble, respiration 36 and shallow. He was unable to draw a deep breath without great pain, which was indefinitely referred to the region of the left chest.

Examination revealed a punctate wound, four centimetres below the middle of the left clavicle, which admitted the end of the little finger; its edges were fairly regular, somewhat blackened, and there was but little hæmorrhage from it. The surrounding tissues for a space of six centimetres were emphysematous.

A probe, gently introduced, passed easily backward, inward, and somewhat downward about seven centimetres, and, being arrested, was withdrawn, and no further attempts were made with it. Careful palpation failed to locate the ball, though firm pressure over the inner border of the left scapula caused great pain. Physical examination of the chest gave a negative result.

The wound was dressed with iodoform gauze, peat, and borated cotton; the arm confined to the side; a light diet and perfect rest ordered.

Three hours after admission he had a violent fit of coughing, and expectorated a considerable amount of blood; neither hæmoptysis nor cough, however, recurred.

During the first three days the temperature was normal in the morning, and at 100° in the evening; but after the third day it was normal throughout. For the first ten days the pulse was 80, then it fell to 70, and continued at that rate. The respirations were 28 a minute for eighteen days, after which they were normal.

The patient made no complaint of pain after the first day. Physical examination of the chest, frequently made, gave no signs of change, and the dressing was undisturbed till the thirteenth day, when it was removed, and a granulating ulcer of about the size of a pea found at site of wound. This ulcer gradually closed. The patient was allowed to sit up on the fifteenth day; he soon after assisted in the lighter duties of the ward, and, physical examination continuing to give negative results, he was discharged cured, January 16th, thirty days after admission. Three months later the hospital record says: "Patient reports to-day. Examination of chest reveals no evidences of lesion. He says that he has been steadily at work since his discharge, and is as well as before being shot."

Case II.—F. J. C., aged fifty-four, married, a native of the United States, a bank porter, was brought to the hospital in an ambulance, at 7 P. M., June 3, 1884. He had been shot in the breast about half an hour previously by a man standing some ten feet distant, and firing upon him full front; the weapon was a Colt's navy revolver, ·44 caliber.

On admission, his pulse and temperature were normal, but his respirations were accelerated and shallow, and it was impossible for him to inspire deeply. From time to time he coughed up small quantities of blood; he complained of much pain in the right chest, both anteriorly and posteriorly.

Upon examination, there was found a punctate wound two centimetres to the right of the sternum, and midway between the cartilages of the third and fourth ribs, which freely admitted the end of the little finger; its edges were blackened, and the tissues about it were emphysematous; there was no hæmorrhage from it.

Beneath the skin, over the middle of the infra-spinous fossa of the right scapula, was felt a hard, rounded object, of about the size of a bean; it was movable, and, by making firm pressure, it could be felt to grate upon the surface of the bone. The tissues all about this were emphysematous. Physical examination of the chest did not reveal evidences of fluid.

The wound of entrance was not probed, nor were any attempts made to extract the ball. The wound was dressed with iodoform gauze, peat, and borated cotton, a large cotton pad placed over the right scapula, and perfect rest ordered.

During the two following days there was occasional hæmoptysis and pain on forced inspiration. These ceased the third day, however, the pulse and temperature being practically normal throughout the month, the respirations averaging twenty-six a minute during the first ten days, when they resumed the normal rate. Daily physical examinations revealed no signs of chest lesions; the appetite continued good, the bowels were regularly moved, and on the twenty-first day the patient was allowed to sit up, and soon after was about the ward.

July 3d, thirty days after its application, the first dressing was removed. The wound was entirely closed, a reddish spot alone marking the point of entrance of the ball. An incision was now made over the bullet, which was found to be encysted and surrounded by a small quantity of blackish fluid; it was readily extracted, the cavity was thoroughly washed out, a few strands of catgut were inserted for drainage, the wound was sewed up with the same and dressed in the ordinary way with iodoform gauze and peat; this dressing was removed in eight days, and primary union found to have taken place throughout the wound.

July 10th, thirty-seven days after admission, he was discharged cured, having no chest symptoms, and being apparently well in every way.

I saw him again three months later, and he seemed as well as before the accident, except for occasional "catching" pains in the right side, where auscultation revealed evidences of a dry pleurisy in the mid-axillary line at the eighth rib, over an area about as large as a silver dollar.

Book Notices.

Osteotomy and Osteoclasis for Deformities of the Lower Extremities. By Charles T. Poore, M. D., Surgeon to St. Mary's Free Hospital for Children, etc. New York: D. Appleton & Co., 1884. Pp. x–182 [Price, $2.50.]

By reason of the simple and condensed style in which Dr. Poore has written this monograph, its moderate size can not be taken as an index either of the importance of the subject or of the amount of investigation and personal experience which it represents. For a number of years past the author has made excellent use of exceptional opportunities for a practical and critical study of the operative treatment of deformities of the lower limbs. In several lesser contributions to literature he has shown himself eminently clear-headed and fair in his estimation of facts, and his readers will not now be disappointed in their expectation of finding those qualities in his treatment of such important subjects as osteotomy and osteoclasis. While the book is one from which specialists may learn much, it is also one that will serve as a safe guide to the general practitioner, who is often called upon for advice in these cases.

Scarcely less noteworthy than Dr. Poore's strict adhesion to the logic of facts are his evident purpose to present the views of other authors with fairness and the pains that he has taken to get at pertinent facts in pathology as illustrated by rare specimens in the possession of his fellow-practitioners. He has taken great care, too, that the drawings in his book should be true to nature and illustrative of the most practical points relating to the subject under discussion. The volume is an excellent specimen of the publisher's art.

The National Dispensatory. Containing the Natural History, Chemistry, Pharmacy, Actions, and Uses of Medicines, including those recognized in the Pharmacopœias of the United States, Great Britain, and Germany, with numerous references to the French Codex. By Alfred Stillé, M. D., LL. D., Professor Emeritus of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, and John M. Maisch, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Third Edition, thoroughly revised, with numerous additions. With Three Hundred and Eleven Illustrations. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. xv–1,755.

The fact that a third edition of this great work has been called for within the brief period of five years since it made its first appearance is a gratifying evidence of the appreciation it has met with at the hands of the professions of medicine and pharmacy. We commended the first edition to our readers, and the thorough revision that the book has since undergone justifies us in emphasizing that commendation. It is unnecessary to draw a comparison between it and the United States Dispensatory; both works are in the highest degree creditable, and both should be in the hands of every physician and every pharmacist. Reference to the work is much facilitated by the adoption of the patented index that runs through the volume.

Practical Manual of Diseases of Women and Uterine Therapeutics, for Students and Practitioners. By H. Macnaughton Jones, M. D., M. C. H., F. R. C. S. I. & E., Examiner in Obstetrics, Royal University of Ireland, etc. New York: D. Appleton & Co., 1884. Pp. xxiii–410. [Price, $3.]

Within a very moderate compass, this work covers the field of gynæcology quite fully, but it deals most prominently with the minor details of that branch—what may be termed every-day gynæcology. Methods of diagnosis are presented with much completeness, and so also are measures of treatment, including, as is apt not to be the case with books of this class, medicinal treatment. For these reasons, as well as because the author's views will be found to be eminently judicious, we think that the book deserves to be widely studied by general practitioners and students.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
D. APPLETON & CO.

Edited by
FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JANUARY 10, 1885.

TUBERCULOSIS FROM THE SURGEONS' STANDPOINT.

THE fact that we are able to lay before our readers, in this issue of the journal, four papers bearing upon the surgical aspects of tuberculosis, all of which were read at one meeting of the Medical Society of the County of Kings, not only shows the general interest that is felt in the subject, but also illustrates a plan of work not uncommon with the society in question, and one that we have often taken occasion to commend. We have always held that the interest and usefulness of society meetings would be greatly increased by confining the papers and discussions to related topics; and we may add that it is an advantage when a medical journal is able to arrange its matter on the same plan.

Tuberculosis has been thoroughly discussed from a medical point of view, and we have now to thank the gentlemen to whose papers we have referred, as well as Dr. Dennis, whose paper on "The Relations between Tuberculous Joint Disease and General Tuberculosis" appeared in our issue for December 27th, for having collectively presented us with a clear idea of the surgical significance of the affection. In addition, we shall shortly publish an elaborate article covering the general subject of surgical tuberculosis, which was lately brought out at one of the New York societies. Of the articles given in this issue, Dr. Lewis's constitutes a brief and clear introduction to the study of surgical tubercular disease; Dr. Fowler's deals with the important matter of caseous lymphatic glands, presenting conclusions which, we think, will be accepted as expressing very fairly the most enlightened views now held, although colored with the enthusiasm of the German school, and perhaps not laying quite enough stress upon the dangers of the removal of large masses of glands from the neck (which dangers the experience of foreign surgeons has shown to be by no means insignificant); Dr. Wunderlich's sets forth the results of surgical interference with pulmonary tubercular lesions—a matter of which the present aspect can not be said to be flattering; and Dr. Rockwell's points to the danger of neglecting a prompt resort to operative measures in cases of genito-urinary tuberculosis.

While these several papers, we repeat, show the value of assigning particular phases of a subject to a number of essayists, they reflect the greatest credit on the authors.

AN ENGLISH VIEW OF THE AMERICAN DEGREE.

WE are so accustomed to the disparaging remarks of English journals on the defects of our system of medical education that we have become almost callous on the subject. Occasionally, however, a statement more unjust than usual does awaken a transient feeling of annoyance, and we are tempted to offer a word of protest, although well aware that it will be a profitless task to try to send the arrow of conviction home to those who constantly feel called upon to give public expression to their gratitude that they are "not as other men are."

The "Medical Times and Gazette" lately took occasion, while referring to the value of the English degree of M. D., to say: "In America every medical man, with the rarest exceptions, is an 'M. D.,' and it takes him only two years to attain the right to that distinction. Only three colleges in that country now demand the qualifications which were held requisite to the study of medicine a hundred years ago. A necessary result is that the stamp has lost much of its original significance"—and so on *ad nauseam.* This is severe enough without the additional sneer that, there being no visible distinction between educated and ignorant physicians in this benighted land, the unfortunate patient must discover the difference at his own risk. By reference to our "Students' Number," it will be found that upward of twenty of our schools distinctly specify that the degree of M. D. is granted only after three years of study. To the other remarks we have quoted we have nothing to say—they will be condemned by all medical *gentlemen*, of whatever country. We are not ashamed either of our institutions or of the men whom they have educated, and we only regret that it is so much the custom with our English friends to launch into a subject upon which they have no exact information. The cry against American medical schools has indeed become somewhat monotonous.

CONFECTIONERS AS DRUGGISTS.

A RECENT number of the "Lancet" contains a short paragraph, under this heading, in which it is stated that several children were poisoned by eating cough-lozenges into which a confectioner had put a dangerous amount of morphine. In this connection we would call attention to a forcible editorial, in one of our daily papers, upon poisoned candy. The officers of the Board of Health lately seized about five thousand pounds of confectionery which contained lead, arsenic, and various compounds of chromium. The writer of the article in question states that at least two hundred and fifty thousand pounds of candy are manufactured daily in New York during the holiday season. This represents a formidable amount of deleterious material thrown upon the community, and may well alarm the public.

This action of the Board of Health is a step in the right direction, but, in order to be useful, such measures must be systematic, and not spasmodic. There ought to be a regular system of supervision, under which no manufacturer should be allowed to escape the rigid scrutiny of the proper officers. If we must regard the inordinate consumption of candy as one of the necessary evils of our modern civilization, we should at least eliminate as many of its unpleasant results as possible. Now that the dangers of using arsenical wall-papers are beginning to be appreciated by the laity, it is to be hoped that the subject of harmful foods will receive the same consideration. This subject is not beneath the dignity of preventive medicine, and we regard the vigorous appeal in the "Times" as entirely *apropos.*

THE NEW YORK DISPENSARY.

It will be seen by our advertising columns that a radical change in the system of medical service at this dispensary is contemplated. Three attending physicians are to be chosen by competitive examination, who shall serve three or four hours each day, and shall receive a salary of $800 per annum.

We are informed that for the present the three departments will be surgery (including dermatology and venereal diseases), medicine, and gynæcology and pædiatrics.

We can not express in too high terms our approval of this new plan, since we are confident that not only will a superior class of physicians be secured, but better work will be done. The dispensary will certainly gain in the end by this wise and liberal policy, and we hope that other charitable institutions will be encouraged to pursue a similar course.

Although there is the most eager competition for dispensary positions in New York, many men can ill afford to hold them at the cost of losing the best hours of the day without compensation. There is too much free labor in the medical profession, and, however valuable the practice may be to the younger members, they can not help recognizing at times the injustice of unrequited toil. With a conscientious man a sense of duty will keep him faithful to his thankless task, but we fear it must be said that a vast amount of careless and slipshod work is done in dispensaries by physicians who desire to retain the name of being connected with an institution, although they are weary of the duties which the office brings. We congratulate the trustees of the New York Dispensary upon their decision, and wish them all success.

MINOR PARAGRAPHS.

CHARCOT'S JOINT DISEASE.

A very important discussion of this subject has recently occurred at the London Clinical Society. The names of the prominent men who participated in the debate are a sufficient assurance that the question was illuminated with the light of the best minds of the profession.

The general tendency of the meeting was to consider the affection not as a distinct disease, but rather as a form of chronic rheumatic arthritis occurring in patients with locomotor ataxia. There was a disposition on the part of the surgeons present to regard the nervous theory of its production as rather an imaginative way of explaining a gross surgical condition.

Professor Charcot was invited to be present at the discussion, but was unable to attend.

THE RELATIONS BETWEEN PHYSICIAN AND PATIENT.

A recent number of the "Lancet" contains a thoughtful editorial upon this subject, called out by an unjust charge against a medical gentleman. The subject is a delicate one, but the writer has approached it in a most careful and unobjectionable manner. It is not wholly unnecessary to remind physicians that they can never be too cautious in dealing with a certain class of women, who may maliciously involve an innocent man in lasting disgrace. The recklessness with which some of the younger men allow themselves to treat pelvic diseases, without providing the smallest loop-hole for escape in case of unjust accusations, is a constant matter of surprise to those who have learned caution from experience. Short visits, entire absence of familiarity, and a refusal to undertake any procedure in a questionable case without the presence (or knowledge) of a third party—these are the only safeguards.

"It is usually advisable to avoid mixing social with professional visits," says the article to which we allude; "a doctor visiting *as a doctor* should play the doctor and not the visitor; he may visit *as a visitor* at another time. In cases of domestic unhappiness or separation he should be doubly cautious."

Enough has been quoted to show the tenor of the remarks. No man who follows out these precepts can fail to conduct himself on every occasion in a manner worthy of the honor and dignity of his profession.

MR. TAIT ON THE CAUSATION OF LABOR.

In a recent article upon this subject, published in the "Medical Times and Gazette," Mr. Lawson Tait predicts that the real cause of labor will be discovered by a careful study of the phenomena of extra-uterine pregnancy. With our present evidence, however, he is inclined to regard the rhythmical contractions which continue during pregnancy as an important element in the matter. Although Mr. Tait's paper is mainly negative, it is interesting from the fact that he enters into a discussion of his favorite theme of ovarian and tubal physiology, and hints significantly that he expects to publish some very important facts in connection with his theory of menstruation. Anything that Mr. Tait may write on this subject will be read with the interest and consideration which his originality always provokes.

"CHAFF."

Our sprightly contemporary, the "Medical Times and Gazette," contains a spicy article, from a correspondent, on the peculiar London fashion of laying straw in the street in front of houses in which there is sickness. The writer cruelly hints that in many cases this is all for effect, and is to be regarded as only another concession to "ladies with highly strung nerves," for whom a dose of bromide would be sufficient. It is consoling to reflect that, however shattered the nervous systems of our American women may be, and however degenerate the old Puritan stock (as some writers would have us believe), they can still endure the rattle of a Broadway stage, and do not care for straw.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 6, 1885:

DISEASES.	Week ending Dec. 30.		Week ending Jan. 6.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever	9	4	13	3
Scarlet Fever	74	16	58	15
Cerebro-spinal meningitis	5	2	4	3
Measles	130	20	157	19
Diphtheria	51	35	59	28

The Medical Society of the State of New York will hold its next annual meeting in Albany on Tuesday, Wednesday, and Thursday, February 3d, 4th, and 5th. The following-named papers are announced as among those that have been promised: "Pelvic Abscess," by Dr. W. W. Potter, of Buffalo; "Jequirity as a Remedy for Granular Lids with Pannus," by Dr. David Webster, of New York; "Some Diseases of the Ear," by Dr. D. B. St. John Roosa, of New York; "Some of the Tests for

Unilateral Deafness," by Dr. O. D. Pomeroy, of New York; "An Analysis and Refutation of the Theory of the Germinal Original and Propagation of Disease," by Dr. J. B. Graves, of Corning; "Meningitis as a Sequel of Pott's Disease," by Dr. G. G. Monroe, of Crary's Mills; "Sane or Insane?" by Dr. E. H. Parker, of Poughkeepsie; "Uses and Limitations of Hydrochlorate of Cocaine," by Dr. C. R. Agnew, of New York; "Catalepsy in very Young Children"; "Digitalis—its Many Indications;" and "Typhoid Fever in Infancy and Childhood," by Dr. A. Jacobi, of New York; "Trichinæ and Trichiniasis," by Dr. Harvey Jewett, of Canandaigua; "Treatment of Pelvic Abscess," by Dr. Paul F. Mundé, of New York; "Culture Experiments on Bacteria," by Dr. William Hailes, of Albany; "Senile Hypertrophy of the Prostate," by Dr. A. C. Post, of New York; "The Element of Perturbation in Uterine Therapeutics," by Dr. Frank P. Foster, of New York; "Some Observations on the Use of Hydrochlorate of Cocaine," by Dr. Thomas R. Pooley, of New York; "Arteritis or Phlebitis the Sequel of Enteric Fever," by Dr. Robert K. Tuthill, of Poughkeepsie; "Some Practical Points on the Treatment of Granular Lids," by Dr. W. F. Mittendorf, of New York.

The American Neurological Association will hold its eleventh annual meeting in New York, beginning on Wednesday, the 17th of June.

The New Haven Medical Association held its annual meeting Monday evening, January 5th. The secretary reported that during the past year six gentlemen had become members, and that one member, Dr. Pliny A. Jewett, had died. The membership at present numbers fifty-six. Twenty meetings were held during 1884, at which the average attendance was 15·75. Four papers were read, and fourteen questions were discussed. The following-named gentlemen were elected officers for the coming year: Dr. M. C. White, president; Dr. W. O. Ayres and Dr. M. C. O'Connor, vice-presidents; Dr. Henry Fleischner, secretary; Dr. W. O. Ayres and Dr. M. C. O'Connor, prudential committee; Dr. Francis Bacon and Dr. T. B. Gibbons, finance committee.

The Hudson County, N. J., Medical Society held a special meeting on Tuesday afternoon, the 6th inst., at which Dr. John V. Shoemaker, of Philadelphia, gave a lecture on psoriasis, illustrated with microscopic specimens, diagrams, and cases.

The Health of the State of New York.—The State Board of Health's "Monthly Bulletin," for the month of November, 1884, shows a total reported mortality of 5,682, the percentage of infant mortality being 32·2. Diphtheria was noted as specially prevalent in various localities. The returns from Buffalo, Watertown, Utica, and Long Island City are lacking, and those from Troy and a number of other places are stated to be very incomplete.

The Lacaze Prize (10,000 f.) has just been awarded to Dr. Debove for his lectures on tuberculosis, which were published in the "Progrès médical."

"Our Invisible Foes" was the title of a paper announced to be read before the Military Service Institution last Thursday evening by Dr. George M. Sternberg, of the army.

An Attempt at Murder and Suicide by a Physician was made on Sunday evening, the physician being Dr. Rudolf Tauszky, a native of Hungary. He shot his wife and then himself. The wife does not seem to have been seriously injured, but the doctor's skull was fractured, and it is thought that he will not long survive. He had been looked upon as eccentric, and there can now be little doubt that he finally became insane.

The "Faith Cure" seems to have met with a check, if we may judge by the report of a recent recommendation by the Grand Jury of Denver that an asylum in that place, devoted to carrying out this particular form of foolishness, should be closed, on account of three deaths having taken place in it from inanition since Christmas.

The Hospital Saturday and Sunday Collection is reported to show, thus far, an increased number of contributors, but a decrease in the amount realized.

A Typhus Nest has been unearthed within the past few days in a tenement house in West Thirty-second Street, largely occupied by Italians. In all, fourteen of the occupants have been removed to the Riverside Hospital. The premises are described as in a most insanitary and revolting condition.

Changes in the Paris Hospitals.—According to the "Union médicale," M. Gosselin has retired, M. Trélat takes the clinical chair at La Charité, M. Le Fort assumes the same position at the Necker, M. Tillaux becomes surgeon to the Hôtel Dieu, M. Duplay will take the service at the Beaujon, and M. Horteloup that at the Lariboisière.

The Death of Dr. John Davidson, of Hempstead, N. Y., took place on the 26th of last month. He was a licentiate of the Medical Society of the State of New York. Although he was over ninety years of age, it is said that he made professional calls until within a few days of his death.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 28, 1884, to January 3, 1885:*

Girard, A. C., Captain and Assistant Surgeon. Ordered from Department of the Missouri to Department of the East. S. O. 304, A. G. O., December 29, 1884.

Ewing, Charles B., First Lieutenant and Assistant Surgeon (Fort Stanton, New Mexico). Granted leave of absence for two months. S. O. 304, A. G. O., December 29, 1884.

Society Meetings for the Coming Week:

Monday, *January 12th:* New York Ophthalmological Society (private); New York Medico-Historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement (annual); Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *January 13th:* New York Medical Union (private); New York Surgical Society; Medical Societies of the Counties of Chautauqua (semi-annual), Chenango (annual), Clinton (annual), Erie (annual—Buffalo), Genesee (semi-annual—Batavia), Jefferson (annual—Watertown), Livingston (semi-annual), Madison (semi-annual), Oneida (semi-annual—Rome), Oswego (semi-annual—Oswego), Rensselaer (annual), St. Lawrence (annual), Schenectady (annual—Schenectady), Schuyler (annual), Steuben (semi-annual), Tioga (annual—Owego), Wayne (semi-annual), and Yates (semi-annual), N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private); Norfolk District, Mass., Medical Society (Hyde Park).

Wednesday, *January 14th:* New York Pathological Society (annual); American Microscopical Society of the City of New York; New York Medico-Legal Society (anniversary); Medical Societies of the Counties of Cayuga, Delaware (semi-annual), Dutchess (annual—Poughkeepsie), and Seneca (semi-annual), N. Y.; Tri-States (New York, Pennsylvania, and

New Jersey) Medical Association (Port Jervis); Hampshire District, Mass., Medical Society (Northampton); Worcester District, Mass., Medical Society (Worcester); Bennington County, Vt., and Hoosick, N. Y., Medical Society (annual—Arlington, Vt.).

Thursday, *January 15th:* New York Academy of Medicine (annual); New Bedford, Mass., Society for Medical Improvement (private).

Letters to the Editor.

PROFESSOR FLINT ON THE PARASITIC THEORY OF CHOLERA.

Friendship, N. Y., *November 12, 1884.*

To the Editor of the New York Medical Journal:

Sir: Professor Flint's communication on the subject of the "Parasitic Doctrine of Epidemic Cholera," published in your issue of October 25th, is so conservative, so full, and yet so brief and comprehensive, taking and applying testimony so much like an unbiased judge, that I feel that I must commend it to the careful study of the medical fraternity. This I call a masterly review of Koch's theory, and I am hopeful that the whole subject of cholera and its cause may be fully considered and reconsidered. Whether Koch's theory of the comma bacilli be true or not, investigation will provoke discussion, and discoveries will yet be made which will probably establish epidemics as due to bacteria and allied organisms of some kind. Time and patient investigation must establish facts to make the basis of conclusions and inferences. It must take other and further investigation to show whether, in certain cases, it was the disease that made the blood acid, or an acid state of the blood that gave rise to the disease, and whether bacteria had any part in the change. I must congratulate the profession, and render thanks to such as Koch and Flint for pioneering and reviewing.

Inquirer.

HYDROCHLORATE OF COCAINE.

New York, *December 12, 1884.*

To the Editor of the New York Medical Journal:

Sir: The reputation of the new anæsthetic, cocaine hydrochlorate, is thoroughly established so far as its application to the eye is concerned. But much remains to be determined with regard to its usefulness in other branches of surgery. As a contribution, therefore, to the general fund of knowledge concerning the action of this valuable drug I herewith offer a brief account of several different cases in which I have very carefully noted its effects:

Case I.—Three weeks ago I was called upon to operate upon a very large and painful hydrocele, complicated with inguinal hernia. The patient agreed to allow me to operate without ether. Accordingly, I brushed a few drops of a four-per-cent. solution of Merck's cocaine hydrochlorate over the right side of the scrotum, and, two minutes after, I inserted, at points one inch apart, by means of a very fine hypodermic needle, three drops of the four-per-cent. solution. At the end of ten minutes I made an incision one inch in length through the tissues into the tunica vaginalis, and then removed by excision a considerable mass of thickened membrane, etc. The operation was *entirely painless*, the patient being unaware of the time of the several incisions, etc.

Case II.—Miss H., aged twenty-two, presented herself at my office, on account of "a tumor," which, she said, interfered with her walking. I found a cystic tumor of the left labium minus as large as a hen's egg. I did not warn the patient of my intention, but painted the ostium vaginæ and the left labia with the four-per-cent. solution. In *five* minutes I cut through the mucous surface of the labium, and emptied and cleansed the sac. The patient was not aware that *any operation whatever* had been done.

Case III.—A child a few months old had symptoms of periosteal abscess of the left humerus. I inserted two drops of a four-per-cent. solution hypodermically on the outer aspect of the arm, which, of course, caused the child to cry somewhat, as the whole arm was much swollen and very tender. In *three minutes* I carried a sharp-pointed bistoury down to the bone, incising the periosteum and evacuating pus, without producing evidence of pain. There was no catching of the breath, nor sudden outcry, such as we observe when an infant is suddenly hurt.

Case IV.—Mrs. P., aged twenty-five years, has an infant four weeks old. She has been suffering for several days with pains in her right breast, high fever, night-sweats, etc. To-day I painted a small space on the lower segment of the breast with the four-per-cent. solution, and in two minutes I inserted hypodermically, without pain, three drops of the same solution, and in three minutes more I made a free and deep incision, discharging a teacupful of pus. The patient was exceedingly nervous, but said emphatically that the operation was *absolutely painless*.

These cases seem to me to suggest a wide field of usefulness for this new boon to humanity, as the hypodermic applications seem to offer great possibilities.

Malcolm McLean.

THE QUESTION OF MIDWIVES.

To the Editor of the New York Medical Journal:

Sir: At the recent session of the New York State Medical Association a paper on "Women as Midwives" was read, in which the author advocated their employment among the working classes, and the opening of schools for their instruction. The next Legislature will undoubtedly have several bills presented for the incorporation of such schools, and possibly the granting of a license to their graduates to practice midwifery. In connection therewith, I desire to bring to the notice of the profession the following circular, the name of the consulting physician having been used without his authority or knowledge:

> "Mrs. ———, Mid-wife & Doctress, first graduate of the College of Mid-wifery, New York. Diseases of women a specialty. Disease of long standing carefully treated. Consulting Physician, Prof. ———, New York. Confinements taken in the house. Good care. Children adopted. Terms—$18.00 for nine days. Consultation free and discreet. Good nurses supplied free of charge. Office hours—Before 9 o'clock in the morning and from 3 o'clock in the afternoon."

Now, while I am heartily in favor of checking the practice of midwifery by incompetent midwives, and providing for their education, yet personal contact with the class of women applying for instruction, and their conduct after obtaining such instruction, has caused me to change my views as to the advisability of giving them a legal standing in the community. Eight of the fourteen graduates of the "College of Midwifery," not satisfied with the title of "Graduate in Midwifery," have affixed to their cards and signs the word "Doctress" or "Female Doctress," and are practicing as such. In Europe the midwives are taken from the peasant class, and are taught to properly manage a normal case of labor. Habit and the position they occupy in the community lead them to assume no higher responsibility. In this country it is a difficult matter to say how much or how little a midwife should be taught. I therefore beg to submit to the members of the profession, for their consideration, the following questions: Are midwives necessary in this country? If so, how much of a medical education should they receive? Will the cause of higher medical education be advanced by granting them a license to practice?

Obstetrician.

DEMONSTRATIONS OF KOCH'S CHOLERA BACILLI.

“The Kensington,” 102 East Fifty-seventh Street.

To the Editor of the New York Medical Journal:

Sir: I have received from Dr. Robert Koch, of Berlin, a specimen of cholera bacilli which he himself prepared from a pure culture. It shows well the characteristic curved shape of the so-called comma bacilli.

In order to give those members of the profession who may wish to see this specimen an opportunity to do so at their leisure, I have arranged to exhibit it at the New York Post-Graduate Medical School, No. 224 East Twentieth Street, on Wednesday, the 14th, and Friday, the 16th inst., at 5 p. m.

Respectfully yours,
Edmund C. Wendt, M. D.

Proceedings of Societies.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of December 20, 1884.

Dr. Benjamin F. Dawson in the chair.

[From notes furnished by the Executive Committee.]

A Discussion on Diphtheria was opened by Dr. M. Putnam Jacobi, who chiefly proposed to give an account of the recent experiments which had been made in regard to the parasitic ætiology of diphtheria. For it was the ætiology which was still the most important and interesting subject in connection with it. As Calvet de Gassicourt remarked, “we stand in relation to diphtheria where our ancestors stood in regard to variola. They had an admirable and extensive knowledge of the clinical history and even the pathological lesions of small-pox; but, ignorant of its nature, they stood unarmed before it, as we are to-day before the modern plague—diphtheria; then came Jenner.” He did not, indeed, discover the essential cause, but approximated to it by the still more important discovery of the specific remedy. Diphtheria still awaited its Jenner. For, such was the sad conclusion of the French clinician, there was no treatment which could be relied upon to cure, every case being simply a struggle between the vitality of the patient and that of the diphtheritic poison. That this poison was due to a living organism, there could, said Loeffler, be to-day no doubt; and it was unnecessary to repeat reasons for this doctrine which have been already so often alleged. The question was simply to find and isolate this organism, and then to prove its causal relation to the disease by a demonstration of the three fundamental conditions: 1. The organism must exist in typical abundance at the seat of the characteristic lesions of the disease. 2. It must be isolated, and submitted to a “pure” culture. 3. By inoculation of products of this culture, it must be possible to excite the typical disease in one or more species of animal.

The remark had often been made that an almost irresistible tendency to the acceptance of the “germ” theory of infectious diseases arose from observing how completely it harmonized with the great doctrine of the universal struggle for existence, which was *the* philosophical achievement of the nineteenth century. Upon the basis of that doctrine, and in recognition of the frightful impartiality of the forces of life, one might easily seem to discern the rise and fall of vast empires of micro-organisms intersecting the course of human history as successive epidemics. Thus, the flourishing period of one such empire, now extinct, would be represented in the plague of Thucydides, that literally triumphed over the splendor of the age of Pericles. It might have been the age of Pericles of another empire of infinitesimals that appeared to human eyes as the Black Death, which ravaged Europe for three years, and swept off one half of its inhabitants. The migrations of the barbarians were simulated exactly by the migrations of cholera, which emerged like them from Asia. Darwin had told of the disappearance of certain breeds of antelopes from the pampas of South America when a certain minute fly gained the ascendancy in the vital struggle—an insect which was accustomed to lay its eggs in the navel of the superior animal. Human beings disappeared as readily before even minuter organisms; the destiny of either was determined by the questions of nutrient soil and of adaptation to it of the larger or smaller species of living things. It had been said that Laycock, in 1858, first suggested that a vegetable organism excited diphtheria; but he supposed this unknown plant to be a product of the *Oïdium albicans.* The majority of observers who had looked for such organisms in diphtheritic membranes had found micrococci in them. Minute micrococci were described [by Buhl in 1867, by Hunter and Oertel in 1868, by Nassiloff and Eberth in 1872, by Basenbach in 1877, by Brown in 1878, and by Letzerich in 1880; while in 1882 Wood and Formad found and cultivated numerous micrococci, but considered them to be merely the transformation of the ordinary micrococci of the mouth from a latent to an active state.

On the other hand, Cornil and Ranvier (1881) observed both micrococci and rods in the diphtheritic pseudo-membranes, and Klebs (1883) communicated to the International Medical Congress the description of a species of bacillus with which Loeffler's most recent researches essentially agreed. (“Mittheilung aus dem kaiserl. Gesundheitsamte,” 1884.) But in 1881 Talamon created a sensation in France by the alleged discovery of a fungus with a mycelium composed of long tubes mingled with short rods and also with round or oval spores, the cultivation and inoculation of which upon animals caused death with various lesions. It was well known that the causal relations of micrococci to diphtheria had been energetically contested by many observers. Weigert was reserved in regard to them. Senator (1872) insisted that the micrococci were accidental complications, foreign organisms, implanting themselves on the favorable soil of diphtheritically inflamed tissues, and that it was on this account that they were found limited to the most superficial part of these, or even of the pseudo-membranes. The most sweepingly negative experiments were made by Satterthwaite and Curtis (1879), who found that inoculation with fragments of diphtheritic membranes yielded such varying results that no positive conclusions could be shown as to the ætiological relation of the membrane to the disease. Sometimes the inoculated animals remained unaffected; sometimes presented local inflammations and abscesses; sometimes died with symptoms of general infection, but never with either symptoms or lesions characteristic of diphtheria.

Heubner (1883) had furnished a new basis for criticism by experiments tending to establish the relation to be expected between pseudo-membranes and bacteria which might be present in the circulation. He produced non-specific pseudo-membranes upon the mucosa of the bladder in rabbits by tying a temporary ligature around its neck, so as to completely interrupt the circulation for about two hours. On withdrawing the ligature the circulation was restored, but the interruption had sufficed to destroy the vitality of the epithelium, which desquamated, and to impair the integrity of the blood-vessels, so that fibrin transuded on the abraded surface, and a pseudo-membrane was formed resembling that of diphtheria in every respect except in the presence of micrococci. The lesion remained local, and the health of the animals was scarcely affected. In a second series of experiments, at the time that the pseudo-membranes began to form, Heubner injected into the jugular vein fluid holding in solution anthrax bacilli. The animals died of anthrax, and at the autopsy the pseudo-membranes of the bladder were found infiltrated with the bacilli, which were also present in great abundance in the subjacent blood-vessels.

Heubner concluded that, if in diphtheria any micro-organism which our present resources enabled us to recognize was really present in the circulation, it would be found in abundance in the blood-vessels subjacent to the pseudo-membranous exudation, whereas none had been found in this locality.

Loeffler had summed up the results hitherto obtained from investigations as follows: All observers had found bacteria in diphtheritic pseudo-membranes, although many had contented themselves with searching for them by means of the dilaceration method, which prevented the exact relations of the tissues from being ascertained. In the majority of cases the bacteria described had been micrococci, usually in colonies, and these nearly always on the most superficial part of the membrane. Only occasionally had they been found in the lymphatics of the affected parts; still more rarely (Letzerich) in internal organs. To examine these, the modern resources of aniline staining, Abbe's condenser, and oil-immersion lenses had, so Loeffler asserted, been only insufficiently employed. Cultures had been made in fluid media, and thus it had been impossible to isolate from each other the different species of bacteria, of which every diphtheritic pseudo-membrane contained several. In the coincident evolution of these different species, the physiological action of each became neutralized, and even the development of some completely hindered by that of others. This circumstance accounted for the negative or atypical results of inoculation with the products of such fluid cultures; and, likewise, for the uncertainties consequent upon inoculation with fragments of the membrane itself, as in the experiments of Satterthwaite and Curtis. The lesions produced by experimental inoculations, those effected by Talamon being among the most celebrated, included hæmorrhagic infiltration of muscles, localized œdema, serous and hæmorrhagic effusions into serous cavities, with reddish-brown hepatization of the lungs, and radial keratitis, but neither the pseudo-membranes nor the local necrosis of tissues characteristic of diphtheria.

Loeffler's own experiments were divided into three parts: 1. Histological examinations of the tissues of patients who had succumbed to diphtheria (the tonsils, the pharyngeal and laryngeal mucosa, and the internal organs). 2. "Pure" cultures on a solid substance of two species of bacteria discovered during the examinations—namely, micrococci in chains and a species of bacillus. 3. Inoculations, subcutaneous, muscular, corneal, or tracheal. of products of such culture from the fourth to the twenty-fifth generation, upon several species of animals (mice, guinea-pigs, rabbits, and pigeons). The micrococci sufficiently resembled those which had been so often previously described, but were found not only in colonies but in long, elegant chains. These were abundant in cases of diphtheritic ulceration without pseudo-membrane, but coincided also with that, and then were found on its outer surface. On sections from ulcerated tonsils, colored with aniline, the micrococci were found in a narrow blue border lying on the outer side of a broad zone of uncolored tissue. Associated with them were numerous bacteria and rods. The uncolored zone was marked by blue streaks where colored bacteria had penetrated. In many, but by no means in all, cases, the capillaries of the internal organs were filled or even obstructed by chain micrococci; and these were sometimes found in the lymphatics of the lungs, and sometimes in those of the tonsils or those of the pharynx, though in many cases these tissues were expressly declared to have been free from them. Still, in the general summary of his results, Loeffler admitted that the micrococci entered the organism through the open portals of the local lymphatics.

But these micrococci were morphologically identical with those found with any infectious disease associated with lesions of mucous membranes, such as variola, typhus, or puerperal fever. In these diseases they were unquestionably accidental complications, and must therefore be supposed to be so in diphtheria. So far as micrococci were concerned, Loeffler agreed with the critical opinion of Senator. They were frequent in scarlatinous diphtheria, the "pultaceous" exudation of which differed from that of true diphtheria in containing very little fibrin, consisting chiefly of epithelial cells, leucocytes, and fat globules.

The other principal form of micro-organism observed consisted of bacilli considered by Loeffler to be identical with those described by Klebs, in 1883, at the International Medical Congress. These were motionless rods, partly straight, partly curved, of about the length of the tubercle bacillus, but of double the breadth; they were colored intensely with methyl-blue-potassa solution,* but were decolorized again with dilute iodine, except at both extremities, which remained blue. These blue poles were thought by Klebs to be spores, but Loeffler denied this.

These rods were present in great abundance in diphtheritic pseudo-membranes, and did not lie on the surface, like a mass of heterogeneous, accidental bacteria, but underneath this outer layer, and accompanied by a rich abundance of cells. Both cells and bacilli disappeared from the deeper broad fibrinous layer, placed directly upon the enormously dilated blood-vessels. These bacilli were never found in the internal organs, in the blood-vessels, or in the lymphatics. Thus there was no reason to suppose that they acted by penetrating the organism, but, if they were really the diphtheritic virus, produced a poison at the seat of their implantation, which first caused necrosis ot the tissues in immediate contact with them, then enormous dilatation of paralyzed vessels, through the injured walls of which the fibrinogenic lymph exuded, infiltrating the necrosed tissue. The same poison, passing into the circulation elsewhere, injured the blood-vessels in like manner, causing parenchymatous congestions, fibrinous exudations on free surfaces, and ultimately paralysis of nerve-centers, and death.

In a certain number of cases of typical diphtheria no such bacilli were found, although other bacteria were present. Loeffler suggested that they might have died and been eliminated before the death of the patient. Still, the anatomical investigations alone would lead to no positive conclusions, and hence the importance of the second series of experiments with cultures. The micrococci were isolated by the usual devices, and cultivated upon meat, water, peptone, and gelatin. When they were taken from internal organs, the latter were previously washed, first in a five-per-cent. solution of carbolic acid, then in a one-per-cent. solution of corrosive sublimate. The results of inoculation with the products of the culture were negative upon guinea-pigs. In mice and rabbits death usually occurred after subcutaneous injection; not after inoculation, nor after injection into the veins. Injection into the lung was followed, in one mouse, by death only on the thirty-fourth day. Fibrino-purulent exudations were frequently observed over the spleen, the liver, and the lungs; and over the intestine when injections were made into the peritoneal cavity. The exudations contained many micrococci, and they were also abundant in the visceral capillaries. In some rabbits, after injection into the aural vein, a multiple arthritis, resembling that of scarlatina, was developed, and, when the animals were sacrificed, purulent masses, infiltrated with micrococci, were found in the joints.

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* Thirty c. c. of concentrated alcoholic methyl-blue solution to 100 c. c. of a watery solution of potassa, 1–10,000. Pseudo-membranes were cut on a freezing microtome, then hardened in alcohol, and stained by a few seconds' contact with the solution, washed in a one-half-per-cent. acetic-acid solution, and mounted, as usual, in balsam.

Loeffler concluded: "Since the chained micrococci excited in no animal an artificial disease even resembling diphtheria; since they were only observed in a limited number of cases of human diphtheria, and then associated with bacilli; since they exactly resembled the micrococci of erysipelas and other infectious diseases, we must conclude that they are only accidental complications of diphtheria, but may sometimes excite a disease resembling it." Cultures were then made with the other micro-organisms, the bacilli, which were isolated and cultivated upon stiffened blood serum. They would not develop on the meat, water, peptone, and gelatin, partly at least because this softened at a temperature of about 20° C., and a temperature higher than this was essential to the development of this species of bacillus. A temperature of 60° C. killed them. The duration of their life seemed to be about three months. Upon the first sowing of the blood serum with fragments from diphtheritic membranes, colonies of micrococci developed coincidently with colonies of bacilli. A fragment of one of the latter colonies was shaken in 10 c. c. of sterilized water, and a drop of the solution used for new cultures. Inoculation of the product of these cultures upon mice and rats was completely without effect. This fact was rendered more striking from the circumstance that the bacilli resembled the septicæmic bacilli of mice in that they would not grow upon potatoes. Guinea-pigs, rabbits, and birds proved, on the contrary, to be very susceptible. Inoculation of the skin of guinea-pigs was followed at the point of infection by a grayish-white exudation, surrounded by œdematous infiltration, often hæmorrhagic; hæmorrhages into subjacent muscles; swelling of the lymphatic glands; pleural effusions; and red hepatization of the lungs. Upon rabbits, inoculations were also made in the trachea. They were without effect if the trachea wound was left open, but followed by the formation of pseudo-membranes in the trachea if the wound was closed. These membranes were extended to the pharynx. The inner organs were usually found to be intact, but the lungs were occasionally hepatized. Injections into the veins were without result. In all cases, bacilli were found entirely absent from the internal organs, and sometimes even from the tracheal membranes. When they were present in these they were never so abundant or so typically arranged as in the human specimens. Bacilli from the rabbit did not color so well with methyl-blue as those from the original diphtheritic membrane, and monstrous forms were often observed, as after cultivation of the bacilli upon unfavorable nutritive media. The inference was that the rabbit was not an extremely favorable soil for their cultivation. Pigeons and chickens gave less favorable results than smaller birds, such as sparrows.

Loeffler examined by cultivation the buccal mucus of thirty healthy persons—twenty children and ten adults. Although several varieties of bacteria developed from this culture, in only four cases were bacilli found at all resembling those which had been described. Inoculation experiments with three of these, however, gave negative results. In the fourth case the bacilli were exactly like those of diphtheria in appearance; these were cultivated to the fourth and fifth generations; when the inoculation of five guinea-pigs caused death with all the characteristic lesions, Loeffler inferred that the bacillus was really the diphtheritic bacillus, carried in the buccal mucosa of a child in whose organism it did not happen to implant itself. This experiment opened a wide range of possibilities in regard to modes of conveying infection.

Loeffler summed up the following evidence in favor of the specific significance of the new bacilli described: They were found in thirteen cases of diphtheria with fibrinous exudation. They lay in the oldest part of the membrane and penetrated farther toward the tissues than the other products of the bacteria cultures. Cultures of them carried to the twenty-fifth generation, when inoculated under the skin of guinea-pigs or small birds, killed the animals, after the production of a whitish or hæmorrhagic exudation at the point of infection, and extensive subcutaneous œdema. The internal organs were found intact, like those of diphtheritic patients. Pseudo-membranes were generated by inoculation of the trachea of rabbits, chickens, and pigeons, or of the vagina of guinea-pigs. There were then also evidences of several vascular lesions, manifested by hæmorrhagic œdema, by hæmorrhages into lymphatic glands, and by effusions into the pleural cavity. The bacilli had, thus, the same effects on the animal organism as the diphtheritic virus.

The objections to be urged against the identity of the two were: That the bacilli were absent in some cases of diphtheria (having possibly been destroyed); that in the artificial pseudo-membranes they were not present in typical quantity; that they had no effect upon animals by simple contact with their mucous membranes, except when there was an abrasion; the animals which survived were not paralyzed [but diphtheritic paralysis occurred only in from five to eleven per cent. of the cases]; finally, that identical bacilli had been found in the buccal mucosa of healthy persons [possibly carried in it, and for some reason not developing in the tissues of the person]. It seemed as though Loeffler's experiments had approached nearer than any others to the solution of the preliminary question, What was the micro-organism which was the causal agent in diphtheria? It was noteworthy that, so far, only in one instance had the positive discovery of a causal parasitic organism led to therapeutic results; namely, the discovery of the *Acarus scabiei* as the cause of the itch.

Dr. G. B. Hope said that diphtheria came more under the notice of the general practitioner than that of the specialist, yet recently he had seen a case, in a boy of seven years, who, without constitutional symptoms, had presented two distinctly diphtheritic patches as large as a ten-cent piece upon the tonsils. The speaker applied a strong solution of the nitrate of silver, ʒ jss.–℥ j, and afterward learned that the boy died several days later with diphtheritic croup, the patches in the fauces never having extended. The case was of interest on account of this independent development of membrane upon the two parts.

Dr. E. S. Dana remarked that, as was well known, diphtheria caused paralysis oftener than any other infectious disease. He related the following peculiar case, in which permanent muscular atrophy followed this disease: A young man of twenty-two years, with the appearance of good health, presented himself a year ago, stating that he was a bar-keeper, and that he could stand without inconvenience seventeen hours out of the twenty-four, but that if he sat down he could not get up without using his hands to drag himself from his seat, and that if he were thrown upon the floor he could not get up at all without assistance. Upon examination, wasting of the quadriceps extensor and of the leg muscles upon both sides was found. There was in these muscles a diminution of electrical excitability, slight to galvanism, but to faradism very marked. There was no diminution of the sensibility. There was no bladder or rectal trouble. He was married and had children. Five years previously he had had diphtheria, following which he had pains in the arms and legs, with a loss of power which affected principally the lower extremities. At the end of two or three weeks he got up, and at the end of three or four weeks began to walk. He never fully regained his power, and it was after this time that the atrophy occurred. He had had no other disease. It seemed probable that connected with the diphtheria he had had a myelitis of the anterior horns, like that which occurred in infantile paralysis. It should be borne in mind that, during epidemics of diphtheria, cases of diphtheritic paralysis occurred where there had been no local signs of the disease.

Dr. W. O. Moore said that in eye practice two classes of cases of diphtheria were encountered, the first and rarer being an acute affection of the conjunctiva, characterized by the formation of a pseudo-membrane on its surface, and also an infiltration of the lid substance. This diphtheria of the conjunctiva was very rare in this country, although quite common in Germany, especially in Berlin. Out of 36,302 cases of conjunctivitis treated during thirteen years, at the New York Eye and Ear Infirmary, only sixty-nine were diagnosticated as of diphtheritic origin, and he had no doubt some of these were improperly so called. He had himself seen only fifteen cases that were positively of this form. They presented an entirely different appearance from the ordinary membranous forms of purulent conjunctivitis. The lids were hard and branny, more or less pale, hard to evert, and furnishing very little secretion. Chemosis and moderate injection of the conjunctiva existed, and the palpebral conjunctiva was covered by a grayish-white membrane that extended into the tissue beneath the mucosa. The prognosis was bad unless the patient was seen early. The treatment differed from that of the more ordinary purulent conjunctivitis in that we used no astringents, simply keeping the parts clean, with bichloride solutions (1-400), or a saturated solution of boric acid. Later in the disease, after the disappearance of the pseudo-membrane, we treated it exactly like other cases of conjunctivitis. Most reliance was to be put on general tonic treatment. The more common affections of the eye resulting from diphtheria were the paresis that occurred. Paresis of accommodation might come on shortly after diphtheria or, in rare cases, at the same time with the paresis of the throat. It usually affected both eyes, and was due to disturbance in the short root of the ciliary ganglia. In other cases the motor oculi was affected, and more rarely the abducens. These pareses usually yielded to treatment in a short time, tonics and applications of electricity being of great service.

The Chairman had observed an outbreak of puerperal fever in the maternity ward of the New York Foundling Asylum at a time when there was diphtheria in the children's wards. It was required that the *internes* should change their clothing and bathe carefully before going from the diphtheritic patients to the puerperal patients. The first case of puerperal infection had dated from a violation of this rule. He considered that poison had been carried in this way, although three hours had intervened between the visits to the two wards. He had today seen a characteristic diphtheritic patch in a boy who was playful and absolutely without constitutional signs, but the speaker did not doubt that these signs would develop hereafter.

Dr. S. S. Burt had seen cases where there was apparently no local lesion, but which had proved fatal, the autopsy showing that the lower trachea and bronchi were choked with membrane.

Dr. Frank B. Carpenter presented a specimen accompanied with the following history: A child, about two years of age, had been in his usual good health until Tuesday, the 9th inst., when slight coryza and cough appeared. These symptoms increased, until on Wednesday the nasal discharge had become muco-purulent, the cough had grown stridulous, and dyspnœa was noticed. From that time the respirations grew gradually more obstructed, and the obstruction was only slightly relieved by the emetics and other domestic remedies that were used. When he first saw the patient, on Friday, the fourth day of the disease, this dyspnœa was severe, the character of the respirations clearly showing laryngeal stenosis. The submaxillary and cervical glands were but little enlarged. The tonsils were somewhat swollen and the whole throat was congested, but did not have the dark-red congestion, occurring in patches, usually found in diphtheria. A careful examination of the fauces and nares failed to reveal any diphtheritic membrane in those parts, nor did any develop there during the course of the disease. In short, this case presented the clinical features of membranous croup as it was usually described, rather than those of diphtheria. On this account it occurred to him that it might be of sufficient interest to warrant its mention, bearing as it did on the relation of croup to diphtheria. In view of the prevalence of the latter disease, the insanitary condition of the place, and his belief that there was a very intimate relation between croup and diphtheria, if they were not in fact identical, he treated the case as diphtheria, taking the precautions usually deemed necessary to prevent the spread of the disease. Subsequent events seemed to have justified this course. On the following day a child in the same family, seven months of age, began to show symptoms of diphtheria, which developed rapidly. The submaxillary and cervical glands became swollen, and a characteristic membrane appeared on the tonsils, together with other symptoms which showed conclusively that the case was one of diphtheria. The child first attacked gradually grew worse, and trachéotomy was advised, but it was not allowed by the mother. Death occurred on Sunday, the sixth day of the disease, of apnœa.

In reply to the question, "What treatment do you employ in diphtheria?" he would say that, while he had no specific for the disease, he was convinced that much could be done by *early* and *thorough* treatment, that the local lesion always preceded the general infection, and that, in all cases where the constitutional symptoms appeared first, the early local lesions had been present on some portion of the mucous membrane, but had escaped observation. As it was impossible to say just when the transition occurred from a local to a general disease, and as in the majority of cases to which we are called constitutional symptoms had developed, it was well to begin both local and internal treatment at once. In a disease like this, which had no typical course, which was so insidious in its advent, so uncertain in its development, and so fatal in its results, no delay was admissible and no detail of treatment that offered any hope of success could safely be ignored. The nasal cavity should be thoroughly cleansed with a mild antiseptic solution, and all mucus cleared from the throat, so that a clear view of both could be obtained. If any patches of diphtheritic membrane could be seen, they should be brushed with some mild antiseptic preparation, care being taken not to irritate the already inflamed membrane of the throat. The oil of eucalyptus answered the indication here, being unirritating and remaining in contact with the mucous membrane. As this oil was also a good deodorizer, it was especially useful in cases where the discharges were fœtid. Hot fomentations or poultices should be applied to the neck and covered with oil-silk to retain the heat and moisture and prevent chilling the patient. The medicated steam spray should be freely used. As to constitutional treatment, *pure air* at an equable temperature of about 75° F., a plain nutritious diet and tonics, such as tincture of chloride of iron and bichloride of mercury, which also produced a local effect, in the way they were now prescribed, appeared to meet the indications. Stimulants should be used as soon as the slightest evidence of cardiac weakness appeared.

He had given these points in treatment not as anything new, but only to emphasize the importance of early and thorough treatment, feeling confident that we could sometimes prevent the development of constitutional symptoms, and often forestall the disease and mitigate its severity. Cases occurred where the disease was well advanced before medical aid was called, and others which, though seen early and treated vigorously, rapidly became worse, until asphyxia threatened to destroy life. In these cases, as soon as it was probable that we could not otherwise control the disease, tracheotomy should be performed; and here, again, as in the treatment of the early local lesion, there was no time to be lost. The success of this operation would depend very much upon its being done early, while there was time to work slowly and carefully, before lung complications had appeared, and before the child was overwhelmed by the poison of the disease and exhausted by the intense dyspnœa.

Dr. H. M. Guild, of Vermont, considered the infection of diphtheria to be by direct contagion; frequently through the sputa, the hand touching the mouth and afterward the door-handle or some other object. He relied upon frequent syringing with salt and water or lime-water, using a tube which was passed into the nostril, the operator standing behind. If he could have but three remedies to combat this disease, he would choose a syringe, water, and whisky. In cases where the temperature had been 103° to 103·5°, he had, by injecting the nasal passages and throat, reduced it 2·5° to 3° in one hour.

Dr. Rhodes referred to the case of a patient of twenty-three years, who had had patches on both tonsils and on the pharynx, but none of the constitutional symptoms except malaise. Tonsillar suppuration being also present, he had removed the tonsil, having previously applied cocaine, without pain.

Dr. T. E. Satterthwaite referred briefly to the observations that had been made by himself, in conjunction with Dr. Edward Curtis, for the Metropolitan Board of Health, a synopsis of which could be found in the "Treatise on Diphtheria" by Dr. A. Jacobi. Though considerable time had elapsed since those observations were made, he did not find that their conclusions were invalidated by the more recent evidence which the speaker of the evening had presented, according to which a number of investigators had found peculiar bacteria, and a number had not found them in the diphtheritic membranes. Certainly he failed to see wherein they had collected evidence sufficient to justify us in believing that the specific organism, if there was one, had been found. In their own experiments they had utterly failed, by injecting the diphtheritic deposit into irritated air-passages, and by inoculation beneath the skin, to produce results which in any way differed from those which were obtained from the injection of any putrid material. As a rule, abscesses were produced in animals, with a residual cheesy mass. The animals became emaciated, but did not always die. He then exhibited a series of microscopic specimens taken from a diphtheritic larynx, showing the membrane *in situ*. He also showed sections taken from a larynx in a case in which a diagnosis of membranous croup had been made by a well-known authority in children's diseases. He could not discern any essential difference in minute structure between the two membranes, and in this view he believed he was sustained by the general opinion of pathologists in New York. He also called attention to the old-time definition of a croupous deposit as one which reposed upon the surface, while the diphtheritic deposit was one which also infiltrated the mucous tissue of the part, so as to be separated with difficulty. As a matter of fact, he held that every diphtheritic membrane would at times be found tightly attached at some places and loosely attached at others. In Dr. Carpenter's specimen the membrane was tightly attached upon the epiglottis and the larynx, but below it could easily be removed. The speaker considered that this loosening had been largely due to the action of the muciparous glands, as had been pointed out by Dr. Jacobi, the glands being absent where it still adhered. Specimens were exhibited showing how the separation was accomplished. He did not consider that the mucous membrane was materially altered where the exudation occurred. He had seen ciliated epithelium immediately underlying the membranous deposit.

The speaker then referred to the experiments already alluded to, and especially to the attempt made to separate the poisonous elements from the inert in the diphtheritic membrane. By filtration through porous clay, it was shown that the poison resided not in the liquid, but in the solid particles. Whether the poison was bacterial or not, he was not prepared to say. He considered that the question had not yet been decided.

Dr. Putnam Jacobi objected to Dr. Satterthwaite's methods in that he inoculated with the composite membrane, for it had been particularly remarked that, in the inoculation of such a mixed mass, the development of one germ would prevent the development of another. Further, Dr. Satterthwaite had no methods for discriminating in regard to the degree of his culture. It was well known, in regard to the poison of puerperal fevers, that at a certain grade of evolution it was poisonous, while at another grade it was not.

Dr. Satterthwaite replied that the experiments were performed a number of years ago, in order to demonstrate the truth or falsity of some statements made by German writers, notably Oertel, Eberth, and Klebs. He had not performed experiments since then by the "pure-culture" method, which, theoretically, ought to establish certain facts in proof or disproof of the bacterian theory. As yet, however, they had not done so. He suggested employing dogs for experiments, as they both had the disease and acted in many respects more like the human being than mice, guinea-pigs, or rabbits.

(*To be concluded.*)

CHICAGO GYNÆCOLOGICAL SOCIETY.

Meeting of December 19, 1884.

The President, Dr. H. P. Merriman, in the chair.

[From notes furnished by the society's editor, Dr. W. W. Jaggard.]

A Case of Mural Pregnancy was related by Dr. W. H. Byford. The history of the case was obscure. The patient, twenty-eight years old, had been married seven years, and had one child, six years old. She supposed that she became pregnant for the second time in February, 1883. In April she became fatigued, and had hæmorrhages, which continued until May 9th. October 14th a discharge of about a gallon of yellow fluid occurred. A putrescent, sero-sanguineous discharge followed for three months. In January, 1884, a large brownish mass, with a very fœtid odor, was expelled. After this, menstruation occurred until July. In May she was quite large, and had bearing-down pains. She entered the hospital October 6, 1884. She was tapped on the 18th, and about four quarts of thick, tenacious fluid, resembling that of an ovarian cyst, were removed. This fluid coagulated on the addition of nitric acid, and on boiling. With the assistance of Dr. R. Tilley, a microscopical examination was made, with negative results. The Drysdale cell was not found. Laparotomy was performed, and a fœtus and placenta were removed without hæmorrhage or difficulty. In order to secure perfect drainage, it was considered best to remove the uterus. The operation was performed on October 30th; the patient did not react, but died within twenty-four hours. Prior to the operation she was extremely reduced by her protracted sufferings. In a similar case Dr. Byford would now prefer the vaginal operation. The specimens removed from the woman were exhibited as supporting the diagnosis of mural pregnancy.

This was the second case of mural pregnancy that had come under the reader's observation within a period of five years. The first case was reported to the society some time ago. The patient was in labor and moribund when Dr. Byford saw her. She had been in labor until she was exhausted. There was no difficulty in making a diagnosis. The head was low in the pelvis, almost on the perinæum. The os uteri was well-nigh inaccessible, behind and above the symphysis. The body of the uterus, somewhat enlarged, could be felt in the lower and anterior part of the abdomen, attached to the tumor containing the fœtus. The fœtus could be felt through the abdominal walls, surrounded by a thick involucrum, apparently as thick as the uterine walls. Fœtal extremities could be distinguished. When dissected, the sac in which the fœtus was contained was found to consist of a thick layer of muscular fibers. These fibers were directly continuous with those of the uterus. The tubes and ovaries lay on either side of the lower portion of the sac. The fecundated ovum had made its way down the tube, had become lodged in a diverticulum in the uterine wall, and was gradually extruded into the cavity of the abdomen. The fœtus was thus developed within the uterus, though not within the uterine cavity. The resemblance to normal pregnancy was great in the presentation and position of the fœtus, deep down in the pelvic cavity behind the vagina. The head, in this case, was fixed by the concentric contraction of the uterine fibers by which it was surrounded, and could be easily outlined as it lay there covered by the posterior vaginal wall.

The specimen presented was much less perfect than the one described, because of the numerous effects wrought upon it during the long time it had remained in the maternal body, and the mutilation consequent upon enucleation.

The treatment of these cases ought to be considered apart from that of extra-uterine pregnancy at term. It was always a matter for special consideration, in connection with each case, whether or no the removal of the fœtus at term should be attempted in extra-uterine gestation. The dangers of laparotomy were greatly increased by the inability to remove the placenta. The surface to which it was attached had no contractile power, so that the divided vessels were left patulous. If hæmorrhage did not immediately prove fatal, the blood was a source of sepsis that must almost certainly destroy the patient. Laparotomy would more likely prove successful if performed some days after the death of the child. In these cases of interstitial extra-uterine pregnancy the fœtus might easily be removed through the vagina. An incision through the posterior vaginal wall would completely uncover the presenting part, and enable one to apply the forceps, or attack it with the perforator and crotchet, as in ordinary labor. After the removal of the fœtus, the placenta should be allowed to separate spontaneously.

Since writing this report, Dr. Byford had seen a case reported in the "Annales de gynécologie" for July, 1884, which occurred in the practice of Mr. Matheson, of England, and illustrated the execution of this plan. The case was reported to the Obstetrical Society of London under the title, "Extra-uterine Pregnancy; the Extraction of a Living Fœtus through the Vagina." The child was slightly asphyxiated, but survived. A sponge, saturated with perchloride of iron, was introduced into the sac after removal of the placenta. The mother recovered. It would seem that the author did not suspect his case to be one of interstitial pregnancy. During the discussion that followed, only one of those present expressed the opinion that it was of that variety. Mr. Griffith thought it was either interstitial pregnancy or one in which the fœtus was developed in one portion of a double uterus.

Dr. **Edward Warren Sawyer** thought that interstitial pregnancy meant the development of the ovum in the uterine portion of one of the tubes. In Dr. Byford's case the uterine portions of the tubes were not involved. It reminded him of a case he had seen in which a secondary uterus, with muscular walls, had been developed; but, as the tubes were not involved, he did not feel justified in designating the case as one of interstitial pregnancy.

Dr. **D. T. Nelson** said, with reference to the treatment of the placenta, that Dr. Byford's advice was that usually recommended in the text-books. The placenta should be left alone in those cases in which the walls of the secondary uterus were not muscular. He had seen a specimen in the Museum of the Chicago Medical College in which no muscular fiber could be detected in the walls. When the walls of the adventitious uterus were muscular, it was questionable whether or no the placenta should be left alone. If it was removed, there was danger of hæmorrhage; if it remained, there was danger of sepsis. When there was reason to suppose that contractions of the adventitious uterus would check hæmorrhage, he thought the placenta should be removed. He had had no experience in these cases.

Dr. **E. C. Dudley** replied to Dr. Nelson. In cases of extra-uterine pregnancy in which the placenta had been allowed to remain, the women did not die of sepsis. He had seen two or three cases in which the sac had been united to the abdominal incision. Whenever evidence of sepsis occurred, the sac was washed out and the temperature immediately fell to the normal. The placenta, under these circumstances, was eliminated spontaneously in about three weeks. It required phenomenal powers of diagnosis to tell in the concrete case whether or no the sac had sufficient muscular fibers to prevent hæmorrhage. The placenta should be permitted to remain within the sac.

Dr. **J. H. Etheridge** thought that if, on microscopical examination, it was found that the muscular fibers of the normal uterus were continuous with those of the adventitious uterus, the case was one of mural pregnancy. In cases of abdominal pregnancy there was a line of demarkation between the normal and the adventitious uterus.

Dr. **A. Reeves Jackson** thought, with Dr. Sawyer, that the results of the anatomical investigation did not support the author's diagnosis. The uterine portions of the tubes were not involved. So valuable a specimen deserved very close microscopical and macroscopical examination. It ought to be referred to a competent pathological anatomist.

Dr. **John Bartlett** thought the ovum had not passed through the tube, but had been developed in the broad ligament beneath the peritonæum, and had, in this manner, derived muscular fibers from the uterus.

Dr. **W. W. Jaggard** referred to the fact that, next to ovarian pregnancy, interstitial pregnancy was of most infrequent occurrence. Up to the present time about thirty cases had been reported in regard to which the diagnosis was positive. Interstitial or mural pregnancy included other sites of development than the uterine portions of the tubes. Dr. Gilbert's case, reported in the "Boston Medical and Surgical Journal" for March 3, 1877, and alluded to by Professor Lusk in his treatise on "Midwifery," was a case in point. The ovum in this case was developed in what seemed to be a bifurcation of the Fallopian tube. In Dr. Byford's case the tubo-uterine orifices were not involved. The sac was extrinsic to the uterine walls. It was probably a case of abdominal pregnancy in which the ovum became attached to the posterior uterine wall, and derived muscular fibers from this locality. The fact that a continuity of muscular fibers from the normal uterus to the adventitious uterus might be ascertained upon microscopical examination would prove nothing as to the nature of the pregnancy. Dr. Byford's case resembled that of Janvrin, in which the ovum lodged on the posterior uterine wall and developed in that situation, involving the posterior wall in its sac. The specimen was worthy of more exact investigation, and should be placed in the hands of a competent pathological anatomist.

Dr. Sawyer said that abdominal pregnancy with the ovum situated on the posterior uterine wall was not at all improbable. He then referred to Bischoff's and Leopold's observations and experiments with relation to the "external migration of the ovum." Beigel had ridiculed this idea. It was like a blind man, introduced into a large, empty room, with a thread in his hand, seeking to find and thread the eye of a needle located in some indefinite quarter of the room. Notwithstanding this sarcasm, the fact of the external migration of the ovum was a matter of positive knowledge. It might pass from one ovary to the opposite Fallopian tube through the abdominal cavity. He thought the specimen exhibited was one of abdominal pregnancy.

Dr. Dudley thought the fact of the external migration of the ovum was not disputed at the present time. Playfair, in his "Treatise on Midwifery," gave a clear exposition of the subject.

Dr. Charles Warrington Earle said that the fact of external migration of the ovum was fully recognized twelve years ago.

Dr. Sawyer said the ovum in abdominal pregnancy might be attached to the posterior wall of the uterus, to the mesentery, to the lower surface of the liver, or to other viscera.

Dr. Nelson made the remark that, in both of the cases cited by Dr. Byford, deciduæ had been cast off.

Dr. Jackson said it was well known that the formation and extrusion of a decidua was a constant occurrence in extra-uterine pregnancy. It was pathognomonic of the condition.

Dr. Byford was not surprised that certain members did not agree with him in his diagnosis. He thought that in the first case the fecundated ovum passed through the tube, but had found some diverticulum in the uterine cavity, had passed into the posterior wall, and had developed in this region, pushing the wall before it. Some of the reasons for this position were as follows: The muscular elements of the sac were directly continuous with the uterine muscle. He did not believe that such a muscular sac could develop adventitiously in the abdominal cavity. He had seen cases of abdominal pregnancy with no muscular fibers in the sac. The head presentation, deep down in the pelvic cavity, in the direction of the resultant of the forces developed by uterine contractions, supported his view of the case.

It was not necessary for the production of mural pregnancy that the tubes be involved. He thought there was much in the remarks of Dr. Nelson and Dr. Dudley. In cases in which there was sufficient contractility it was best to remove the placenta. Even under these circumstances it was not absolutely necessary. There was no danger in allowing the placenta to remain. Finally, he was very positive that the two cases referred to in his paper were examples of mural pregnancy. The peritonæum was a boundary-line between mural and abdominal, or peritoneal, pregnancies.

Dr. Sawyer asked if the peritonæum was a boundary-line of importance in the macroscopical or microscopical differential diagnosis between abdominal and mural pregnancies.

Dr. Jaggard, in reply, said that the peritonæum was no barrier. What was the peritonæum? Dr. Etheridge, in an article on "Chronic Adhesive Perimetritis," published in a recent number of the "Chicago Medical Journal and Examiner," had ably sketched the anatomy of this membrane. It was developed out of connective tissue, according to Rindfleisch and other distinguished anatomists. It offered absolutely no barrier to the attachment of the ovum to the posterior uterine wall, and its development in this situation, with the derivation of muscular elements from the normal uterus.

On motion, Dr. Byford, Dr. Merriman, and Dr. Jaggard were appointed a committee to select a competent pathological anatomist, who did not belong to the society, to examine the specimen and report at the next regular meeting. It was specified in the resolution that the *pathologist should be amply paid for the labor.*

A Placenta with Calcareous Deposits was then exhibited by Dr. Etheridge. It was removed from the body of a primipara, who had probably carried the fœtus two hundred and ninety-two days. The calcareous deposit was probably the result of fatty metamorphosis of the upper layers of the decidua serotina.

Dr. Sawyer said the placenta was interesting, but not uncommon. It had erroneously been believed that the degeneration was of syphilitic origin. He thought the connection with prolonged gestation was established.

Dr. Dudley referred to the calcareous deposit in the walls of the arteries supplying an ovarian cyst which he had removed some years previously.

Dr. Jackson related the history of a case in which he had removed a mass of calcium carbonate situated in the recto-vaginal septum, an inch and a half from the vulvo-vaginal orifice. There was no fatty metamorphosis in this case.

Dr. Earle thought there was an unreasonable tendency to ascribe such cases to the effects of syphilis. Hydatidiform degeneration of the chorionic villi and hydrops amnii received a similar erroneous interpretation.

Dr. Etheridge said that the deposits were composed of the phosphates and carbonates of calcium. These substances had an affinity for albumins and fatty acids present in the cotyledons. Similar calcareous changes were met with in fibroids, thrombi, encysted trichinæ, and the lithopædia of extra-uterine pregnancy.

Dr. Byford thought the connection between prolonged gestation and calcareous deposits in the placenta was established. He thought that Dr. Etheridge would find, on microscopical examination, that the changes had occurred exclusively within the vessel-walls.

Miscellany.

THERAPEUTICAL NOTES.

The Disadvantages of Glycerin as a Solvent.—Vigier ("L'Union pharm.;" "Memorabil.") calls attention to the fact that, although glycerin is a valuable solvent, it should not be allowed to supersede fats in the preparation of ointments, for it is not absorbed through the skin. As a result of numerous experiments upon himself, he states that strong solutions of potassium iodide, morphine, atropine, and corrosive sublimate in glycerin not only fail to produce constitutional effects when rubbed into the skin, but do not appear in the urine; whereas, when incorporated with fat in like proportion, they are rapidly absorbed.

Arsenic in Leuchæmia and Pseudo-leuchæmia.—Warfringe ("Nord. med. Ark."; "Memorabil.") reports several successful cases of the direct intra-splenic and intra-glandular injection of Fowler's solution. Four drops was the dose invariably employed. The splenic and glandular swellings diminished rapidly in size, and the excess of white corpuscles gradually disappeared from the blood. He insists on the necessity of using small doses, repeated thrice daily, in order to avoid local inflammation and general intolerance of the drug. No unpleasant results followed the treatment in his cases.

Galvanism in the Treatment of Nervous Dyspepsia.—Semmola ("Arch. gén. de méd."; "Memorabil.") recommends the use of the constant current in cases of dyspepsia of purely nervous origin. One pole is to be placed on the neck, and the other on the epigastrium; the application is to be continued from five to ten minutes, and repeated at intervals of twelve hours. The most suitable time for it is just before meals. The writer explains that by "nervous" dyspepsia he refers to that form which is due to hyperæsthesia of the gastric mucous membrane or to emotional or other reflex causes—in fact, to various phenomena which can only be explained on the theory of faulty innervation.

Sulphurous Acid in the Treatment of Lupus.—Collier ("Wien. med. Blätter"; "Memorabil.") recommends a solution of sulphurous acid in castor-oil or olive-oil (varying in strength from one part to two to one part to four) as especially useful in cases of lupus of the face, as it does not cause serious disfigurement.

The Physiological Action of Hydrastis Canadensis.—Fellner "Centralbl. f. d. med. Wiss."; "Bull. gén. de thérap.") has studied the effects of this drug when administered to dogs, and draws the following conclusions: It acts directly upon the vaso-motor centers, paralyzing them and thus causing a marked diminution of the general blood pressure. The heart's action is weakened, and, after large doses, it becomes irregular. Contractions of the uterus are caused, which correspond in intensity with the variations in the blood-pressure.

The Use of Electricity in Midwifery.—Bayer contributes an elaborate article on this subject to the "Zeitschrift für Geburtshülfe und Gynäkologie." His deductions are as follows: 1. The constant current is a safe and sure means of provoking uterine contractions. 2. The contractions thus produced are normal and not spasmodic in their recurrence. 3. A similar effect is produced upon the empty uterus. 4. The constant current is a useful agent for eliminating all irregular and painful contractions of the organ. 5. In cases of rigidity of the cervix, electricity sometimes acts very favorably by causing dilatation.

Salicylic Acid in Acute Cystitis.—Borgehold ("Deutsche med. Woch."; "Memorabil.") speaks highly of this drug in the treatment of acute inflammation of the bladder. He gives eight grains every two hours for the first three or four days, and then three times a day, and continues the latter for a week.

Aseptol.—Trauser ("La France méd."; "Centralbl. f. Chir.") assigns to this substance the following formula: $C_6H_6SO_4$, and describes it as a brown, syrupy liquid, having an aromatic odor and a specific gravity of 1.400. It is soluble in ten parts of water, and is without poisonous properties. Clinical observations as to the usefulness of the drug are limited as yet, but it is recommended as an excellent addition to surgical dressings.

Formic Acid as an Antiseptic.—Schnetzler (quoted in the "Centralbl. f. Chir.") asserts that the bacteria which are most tenacious of life are always destroyed by a one-per-cent. solution of formic acid. Since this solution can be applied without injury to the alimentary tract, it follows that we possess in this drug an important agent in the treatment of cholera.

Naphthalin.—Dr. Emil Schwarz ("Centralbl. f. klin. Med.") publishes a series of observations made by him at the Zürich clinic. He confesses that naphthalin is an excellent disinfectant and deodorizer, but its application to the mucous membrane of the bladder and alimentary canal occasioned such severe burning sensations that he concludes that it is a drug to be used with great caution.

Hæmostatic Pills.—M. Huchard ("Lyon méd.") uses pills prepared according to the following formula for hæmorrhages from whatever cause:

Ergotin	each, 30 grains;
Sulphate of quinine	
Powdered digitalis	each, 3 grains.
Extract of hyoscyamus	

Divide into twenty pills, of which from five to ten are to be taken daily. The ergotin and quinine are introduced because of their vaso-constrictor action; the digitalis and hyoscyamus with the double view of regulating the heart and diminishing the nervous irritation.

The Treatment of Cold Abscesses by Injections of Iodoform Emulsion.—Fränkel reports in the "Wiener med. Wochenschrift" ("Centralbl. f. Chir.") the result of this treatment as pursued at Billroth's clinic. The abscesses were first punctured, and their contents evacuated, under antiseptic precautions; they were then filled with an emulsion consisting of ten parts of iodoform dissolved in one hundred parts of glycerin. Eighteen of the twenty cases thus treated were entirely cured, although in every instance well-marked bone disease was present. In a few cases it was necessary to repeat the injection. The writer adds the caution that this procedure is not suitable for abscesses which are on the point of rupturing.

Arbutin in the Treatment of Catarrh of the Bladder.—Schmitz ("Centralbl. f. klin. Med.") says that arbutin, which becomes changed within the system into hydroquinone, a body having the formula $C_6H_6O_2$, is a valuable remedy in vesical catarrh. He suggests the following as a convenient preparation:

Arbutin	75 grains;
Distilled water	7 ounces.

Dose, one tablespoonful every two hours, containing about eight grains of the drug. A marked improvement in the condition of the urine is noticed within two or three days after beginning the treatment. The writer speaks in rather a guarded way concerning the usefulness of this remedy, and admits that its high price forms a decided objection to its general use.

A Point in the Early Diagnosis of Pregnancy.—The "Medical Chronicle" quotes from a paper published by Hegar, in the "Prager med. Wochenschrift," to the effect that this writer has noticed what he considers an important early sign of pregnancy. Hegar calls attention to the fact that during pregnancy the lower uterine segment becomes thinner and softer than in the non-gravid organ. This condition can be made out easily by bimanual palpation, especially if one finger is placed in the rectum while the uterus is depressed from above with the other hand. The sign is said to be nearly constant, but its absence is by no means a proof that pregnancy does not exist.

The Chicago Gynæcological Society.—At the next regular meeting, to be held Friday evening, January 16th, the proceedings are expected to include a report by the pathologist, Dr. Christian Fenger, on Dr. W. H. Byford's specimen of extra-uterine pregnancy; the exhibition of specimens from a case of double ovariotomy, by Dr. E. C. Dudley; and a paper entitled "Discussion of Certain Methods by which the Second Stage of Labor may be rendered easier," by Dr. Henry F. Byford.

The French Congress of Surgery.—We learn from the "Union médicale" that an organization to be termed the *Congrès français de chirurgie* has been formed by a commission consisting of Professor Trélat (president), Professor Verneuil, M. Horteloup, M. Chauvel, M. Bouilly, M. Ch. Monod, and M. S. Pozzi (secretary), the avowed object of which is to establish scientific relations between French and other practitioners of surgery and all who are interested in the progress of French surgery. The meetings will be held annually in Paris, during Easter week, unless the Congress decides to the contrary. All doctors in medicine may become members by registering and paying the dues, which have been fixed at 20 f. a year. A single payment of 200 f., made before the 15th of February, 1885, gives the person the title of founder; a like payment made after that date constitutes the person a perpetual member. This payment is in lieu of the annual dues. The following subjects will be discussed at the approaching meeting: 1, the ætiology and pathogeny of surgical infections; 2, the surgical indications drawn from urinary examinations; 3, the best dressings for army use in the field; 4, the treatment of cold abscesses; 5, the operative indications in penetrating wounds of the abdomen. The commission asks also for communications upon the following topics: 1, the comparative value of iliac and lumbar colotomy for cancer of the rectum; 2, the indications for gastrostomy; 3, the origin and nature of hip-joint disease; 4, the indications for trephining in injuries; 5, the treatment of the pedicle in ovariotomy and hysterectomy; 6, the operative treatment of tumors of the broad ligament.

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Original Communications.

EXCISION OF THE SUPERIOR MAXILLA, WITH REMARKS.*

By Dr. GEORGE A. PETERS,

ATTENDING SURGEON TO ST. LUKE'S AND CONSULTING SURGEON TO THE NEW YORK HOSPITAL, ETC.

J. J. M., aged fifty-five, married, born in Canada. Has been a planter on the Island of Cuba for several years past. Came to New York for surgical relief, and placed himself under my care. He was seen in consultation by Dr. T. M. Markoe, Dr. R. F. Weir, and Dr. Charles McBurney, my hospital colleagues. Not being willing to do a grave operation in a hotel, I persuaded him to enter St. Luke's Hospital, which he did May 4, 1884.

The history of his case is as follows, viz.: No history of any hereditary disease in his family. General health has always been good. No history of venereal disease. About two years ago, while riding over his plantation on the back of a mule, superintending some laborers, he was thrown to the ground, striking heavily upon the left side of his face, bruising it severely. At the same time he suffered severe contusions of the leg and back. His recollection is that the contusions of the lower limbs occasioned much more pain and inconvenience than the injuries of his head and face.

Before any tumor of the face was observed, the sight of the left eye "became poor," and there was an increase in the lachrymal secretions. "The eye itself seemed to be stiff." At night there was a slight discharge, which dribbled over the face during sleep. Has never had epistaxis. Began, soon after this, to complain of frequent attacks of pain above and around the left orbit.

About eight months ago he observed a small swelling on left alveolar process, above the first molar tooth. This tooth was extracted by a dentist in Cuba, who stated that there was some discharge from the cavity, and that the root of the tooth was diseased. This operation afforded some relief for the time.

Two months later he had a severe chill, followed by a high fever. He then noticed a swelling on the roof of the mouth, to the left of the median line, about the size of a hazel-nut, and the left cheek now became much swollen; this, however, soon subsided, except for a small swelling which remained in the center of the cheek. This tumor has gradually increased in size, forcing the cheek outward, projecting into the nasal cavity, and pressing down the hard palate. At about this time he came under the care of a surgeon in Havana who had great local reputation. He told him that he had a polypus in left nares, which he then and there proceeded to remove with forceps and scissors. The result of the operation, as described to me by the patient, was a few shreds of mucous membrane, but no well-defined growth; he also plunged a bistoury into the tumor on the roof of the mouth, and removed a small section for future examination. On the following day his surgeon called and informed him that a thorough microscopic examination confirmed his diagnosis, and assured him that the whole affair was merely a polypoid growth and was not at all malignant; in fact, that he was virtually cured.

Notwithstanding this, the tumor continued to increase in size and to give him much pain. About the middle of the month of February, 1884, I found myself in Havana in search of health. I was asked to see Mr. M. professionally. Recognizing the presence of a malignant growth, I arranged with him that he should "put his house in order" and follow me to New York, prepared to submit himself to whatever treatment should there be advised. Late in the month of March he was in Havana, expecting to come immediately on to New York as agreed. At this time he fell again into the hands of the surgeon who removed his "polypus."

He now told him that the progress of the disease had at length revealed that the tumor was an aneurysm, and proposed to cure him by electrolysis.

The needles were introduced and the current was applied. The result was an immediate increase in size and a very rapid growth. He was now utterly discouraged, and, as soon as he was able to travel, "took ship" and presented himself to me for treatment. Condition when admitted into hospital as follows, viz.:

Since the introduction of the needle there has been a continuous discharge from the old cavity in the alveolar process into the mouth, which discharge has some odor. Breathing through the left nostril is somewhat obstructed. General condition of health is very good, appetite fair, bowels regular. On examination, the whole of the left superior maxilla is found to be occupied by a tumor about the size of a large peach, which protrudes outward just below the prominence of the cheek, and extends upward to the ridge of the orbit. The left eye protrudes slightly. In the mouth a prominence is discovered from the palatal process just below the antrum. The first and second molar teeth upon that side have been extracted, and into the cavity formerly occupied by the first molar a probe can be passed for a short distance, and there is a continuous discharge from it. The skin of the face is normal in color and feel. The surface of the tumor is perfectly smooth, and feels soft to the touch, as though the bone had been absorbed.

May 7, 1884.—Operation at 2.30 o'clock P. M., assisted by Dr. Bull and Dr. McBurney.

Patient was etherized by the rectum, so that I should have no delay or obstruction caused by the apparatus used in etherization by inhalation. The flap for exposure of the bone was made after Furgusson's method—an incision through the skin well down upon the surface of the bone, extending from the inner angle of the eye to the outer limit of the orbit parallel with and a little below the infra-orbital ridge; and the other commencing at the nasal extremity of the first, and carried down along the side of the nose, around its ala to the columna nasi, from thence down to the middle of the lip, including its entire thickness. The flap was dissected up rapidly and turned down. The bleeding points were secured with clamps, the soft parts dissected away from the nasal process, and also the cartilage of the nose from the nasal notch of the maxilla. The left middle incisor tooth was then extracted. The malar bone close to its junction with the maxilla was notched with a small saw. The nasal process of superior maxilla at the inner angle of the orbit was treated in the same manner with the saw. The strong-cutting bone pliers were now used for completing the sections of the bone; at the outer angle through into the spheno-maxillary fissure, at the inner angle just below the groove in which lies the lachrymal sac. Two incisions were now made over the hard palate, one posterior and transverse, along the suture between the palatine bone and the horizontal plate of the maxillary bone, the other extending from the inner extremity of the first, along the longitudinal suture uniting the horizontal plates of the upper maxillæ to the alveolus from which the incisor tooth was extracted. The hard palate was now divided by the large, straight pliers, one blade through the nose and the other through the mouth. The whole tumor mass, which was soft and friable was seized with the fingers and thumb and twisted loose from its attachments, the scissors being used when required. All suspicious-looking tissue was scraped away with sharp-edged spoon until all the surface in view looked healthy and normal. The periosteum was detached with a "scraper" and lifted up from the bone forming the floor of the orbit, so that, after the bone was removed well back in the orbit, there should be a support left for the eyeball. The palate bones were left *in situ* with an uninjured uvula and curtain.

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* Read before the New York Surgical Society, December 23, 1884.

The hæmorrhage during the operation was but little, although the tumor itself was exceedingly vascular. Only three animal ligatures were required. The walls of the cavity were covered with iodoform gauze, and the cheek was filled out with three tampons of carbolized gauze, the strings attached to them being brought out through the mouth. The wound through the lip was secured with one hare-lip pin suture and one silver-wire suture. The remainder of the flaps were held in place with continuous and interrupted sutures of fine black silk, and the line of incision was painted over with flexible collodion in which iodoform had been dissolved (ʒ ss. ad ℥j).

Patient was sent to his room. At 4.50 o'clock P. M. he raised himself in bed and appeared partially conscious. At 5.15 P. M. he attempted to speak. Had a movement from the bowels at 5.20 P. M. which had some form. Another at 6.30 P. M. which was thin and slimy. Neither passage contained any trace of blood. All oozing of blood from wound ceased at 9.30 P. M, There was no vomiting. Rested very quietly during the night. sleeping most of the time. Swallowed small quantities of ice-water.

Went on to recovery without any drawback. The mouth was frequently cleansed with boric-acid solution. The tampons were removed from the cavity at end of third day, and the cavity packed loosely with carbolized gauze.

Hare-lip and silver sutures removed on third day. Union by first intention took place throughout entire incision, and all sutures were removed before the expiration of a week.

Was discharged cured May 22, 1884, two weeks after the operation.

On only two days during his residence in the hospital did his temperature reach 99°, and the highest pulse-beat recorded was once 104.

Pathologist's Report.—"Tumor, received from St. Luke's Hospital on May 7, 1884, is connected with the alveolar process of the superior maxilla, left side, and as large as a hen's egg. It is soft, friable, and differing in consistence in different places. It destroys for a considerable extent the bony alveolar process, and some of the teeth. It is composed of lobules of epithelial cells of unequal size, supported by a very delicate stroma. The epithelial cells at the periphery of the lobules, next to the stroma, are low and cylindrical; elsewhere they are small, flat, or cuboidal, and distinctly nucleated. Numerous small, round, and spindle cells are seen in the stroma, which also show a goodly supply of blood-vessels.

"Diagnosis: Lobulated epithelioma.

"FERGUSON."

After leaving St. Luke's Hospital, the patient recovered his health and strength rapidly. The deformity resulting was very little. The lines of incision were scarcely perceptible. His chief inconvenience was from the opening in the roof of the mouth, communicating with the nose, which rendered his voice indistinct, and permitted regurgitation of food, so as to annoy him somewhat.

A dentist was consulted, who made a thin plate of gold, with teeth attached, which, when in place, obviated the embarrassment, and was worn with much comfort. It was a difficult matter to secure the plate in position, so that it would not "drop down." A piece of mechanism was contrived which was very ingenious and effective. To the upper, or convex, surface of the gold plate a button was attached by a hinge; the button stood up from the surface at a right angle. When the plate was placed in position this button projected into the cavity; it was then made to hook over and clasp the bony palatine plate of right maxilla at edge of the wound by pressing upon one of the molar teeth in the plate, which was connected with the button by means of a spring. The plate was easily removed for purposes of cleansing, and held very firmly in place. This apparatus he was enabled to wear during the entire time between soon after the first operation and the time he returned to his home in Cuba.

(*Copied from Case-Book, New York Hospital.*)

"RECURRENT CARCINOMA OF THE FACE (service of Dr. George A. Peters).—J. J. M., aged fifty-five years, born in Nova Scotia, married, planter, admitted to New York Hospital August 27, 1884. Family history negative. Has always enjoyed good health until two years ago, when he fell from his horse, striking the side of his face. Last November a swelling appeared in inner side of left hard palate, and gradually increased in size.

"Patient was operated upon, on the 7th of last May, in St. Luke's Hospital, by Dr. George A. Peters, and the left superior maxilla removed. Recovery good. Three weeks ago a tumor reappeared in left malar region, and has been growing rapidly ever since.

"On admission, general condition good. Examination shows a tumor about the size of half a pullet's egg, situated below the outer half of left eye, over malar region. The mass is hard, firm, elastic to the feel, and occasionally painful; is attached to subjacent tissues. Skin over the tumor is discolored, but not adherent to it.

"*Operation, August 27th*, was done by Dr. Peters. Etherization was started by inhalation, and continued *per rectum.* A curved incision was made through the skin over the swelling running toward the nose, flaps raised, and fleshy mass of the tumor removed. With the *rongeur* a considerable portion of the zygomatic process was gnawed away, and the prolongations of tumor-tissue were scraped away from beneath that process and from the temporal fascia. Hæmorrhage during the operation was considerable. Several small-sized and one large bleeding point were tied with animal ligature. Rubber drainage-tube was inserted; the wound was sutured with fine black silk. Three ounces of ether were used by the rectum during the entire operation, which lasted for an hour and a half. The second operation did not open into the cavity left as a result of the first one. Rallied well from the ether and operation. No vomiting and no rectal symptoms. There was considerable œdema of conjunctiva and eyelids; no pain.

"Drainage-tubes removed about thirty-six hours after operation. On the third day the sutures were removed. Union was complete except where the tube emerged; here a small sinus remained open for a few days, when it closed. At the end of a week from time of the operation the patient left the hospital and went to his hotel. Returned to his home in Cuba, September 13, 1884."

Pathological Report by Dr. Ferguson, of New York Hospital.—"Examination of the tumor shows it to be a typical epithelioma. Large masses of flat cells are seen in a small amount of fibrous stroma, in which are many young cells of inflammatory origin."

Believing that rectal etherization would be especially desirable in this case, by leaving the face unobscured by cone or any apparatus, I devoted some time to contriving a method which should be both safe and sure. Administration of ether by this channel had been but little practiced, although, fortunately, comparatively much had been recorded in the journals. The chief danger seemed to be either from over-distension of the bowels with ether vapor, or tenesmus with bloody discharges from the rectum, caused probably by fluid ether being forced through the tube and deposited in contact with the mucous membrane, causing inflammation.

Experiments had demonstrated that the cool rubber tube produced rapid condensation of the vapor driven through it. The amount or rapidity of condensation did not seem to depend either upon the length or caliber of the tube. Ether boils at temperature of 96° F. Theoretically, it seemed that if the vapor were superheated it would condense less rapidly. The temperature of the water in which the vaporizer was immersed was kept as nearly as possible at a temperature of from 103° to 105° F. If the temperature is raised to 120° or 130°, the ebullition becomes so active as to drive over the fluid ether in considerable quantity.

Dr. Ogden C. Ludlow, who occupied the position of Senior Walker in St. Luke's Hospital, contrived a very simple and ingenious apparatus by means of which we were enabled to secure the desired results.

It may be described as follows, viz.: Two glass phials of a capacity of from six to eight ounces. One phial, intended as the reservoir for containing a supply of ether sufficient in quantity to last throughout the entire operation, should be marked with graduate lines, so that the amount used may be accurately measured. This is connected with the second phial, intended to be used as the vaporizer, by a rubber tube with a forcing bulb, as in Davidson's syringe. Phial No. 2 is placed in a jar of water with a thermometer, so that the water may be kept at the required temperature. To a curved glass tube projecting through the stopper of phial No. 2 is attached a rubber tube, about two feet long, on the distal end of which is a rubber nozzle for introducing well into the rectum. Into this rubber tube, about eight inches from the nozzle, is inserted a short glass tube, from which the apparatus can be easily detached when the vapor is not needed; the glass also enables one to discover when fluid ether is driven through it. Through the cork stopper of phial No. 2 a second glass tube is passed, which tube receives the rubber from phial No. 1, through which ether is fed as required from the reservoir.

Here we have a very simple and easily managed apparatus.

When a sufficient quantity of vaporized ether has passed into the rectum, the tube is slipped off from its glass attachment near the anus and left *in situ*. The connection can be readily re-established when more vapor is needed. This tube left in the rectum has also the advantage of affording a ready escape for any excess of ether vapor which may have been driven on, or for gases generated in the bowels. To show how satisfactorily the apparatus works, I will here read the report of what was very carefully observed and recorded at the time by Dr. Ludlow, who had sole charge of the administration of ether in M.'s case:

"*May 7th, at 2.30 P. M.*—Patient was etherized *per rectum*, ℥ ss. of brandy having been given previously; at the beginning, pulse 104; ℥ jss. of ether was then forced into the vaporizer. Within half a minute he tasted the ether in his mouth, and was at once seized with a desire to evacuate the contents of his bowels, although two enemata had been given in the morning. In five minutes the muscles of his arms were relaxed and the conjunctiva but slightly sensitive. After another minute he opened his eyes, spoke, and turned over on the table. Another ounce of ether was then forced over into the vaporizer. The ether cone was then placed over his face; he struggled for a short time, but was completely anæsthetized in eleven minutes from the commencement, when the cone was removed. Ether was administered *per rectum* for fifteen minutes, when the tube was disjointed. This was followed by a discharge of ether and foul-smelling gas through the tube. After this the tubes were connected for one or two minutes at a time, making the total time of actual etherization thirty minutes. The last charge of ether vapor was given one hour and thirty-two minutes from the start, but the operation was not completed for thirty minutes more. At the end of two hours and ten minutes the conjunctiva became sensitive and the arms commenced to stiffen. Pulse 120 and fairly strong. Amount of ether used, three and a half ounces."

For the second operation, done August 27, 1884, the ether cone was applied over the face until he came perceptibly under its influence, when it was removed. The tube was then introduced into the bowel, and rectal etherization was employed throughout the time of the operation. The apparatus used at the New York Hospital was extemporized from the materials at hand, and was by no means so complete as the one described above.

It answered the purpose, however. Patient was kept anæsthetized for an hour and a half, only three ounces of ether were used, and this only for a few minutes at a time, connecting the apparatus only when the effect of the anæsthetic seemed to be passing off.

My experience in operations upon the mouth or its neighborhood, involving either complete or partial excision of the jaw bone—notably in several cases of extirpation of pharyngeal tumors of a malignant nature, reports of which have been made before this society—led me to appreciate the great hindrance to rapid or thorough removal caused by the presence of the ether cone as generally employed. The operator is frequently obliged to interrupt his manipulations at a critical point in order that more ether may be given, or the mouth and throat cleansed of accumulated blood, etc. In order to obviate these hindrances, and also to render it safe to use the actual cautery when required, I had on several occasions performed laryngotomy as a preliminary step. This enabled me to administer the ether through a tube inserted in the wound, and extending to the reservoir of ether at any chosen distance; this procedure also enables the operator to plug the fauces, and thus prevent the influx of blood, etc., into the air-passages. The cases in which I had used this procedure were so entirely satisfactory that I resorted to it without any hesitation. I have seen no bad results from the opening in the wind-pipe, which opening I always close before the patient is removed from the table. When rectal etherization was first brought to my notice I recognized in it a less formidable adjunct, provided it should be proved reasonably safe. By it we accomplish all that is afforded by laryngotomy, save that it will require much greater care in packing the posterior fauces.

The use of the rectal method in the two instances above recorded encourages me to believe that, with proper precautions in its use, we have a method which is both safe and sure.

Previous to the year 1826 considerable portions of the upper jaw had been removed by surgeons in various countries, notably by Dr. Alexander W. Stevens, of this city, who, in August, 1823, removed a large portion of the upper jaw for a disease of the antrum, and seven years afterward his patient was in perfect health. Dr. Stevens maintained that he was the first to operate upon the principle of cutting through the sound and not the diseased parts.

Dr. David L. Rodgers, of New York, in May, 1824, successfully removed the greater portion of the superior maxilla for osteo-sarcoma.

Mr. Lizars, of Edinburgh, in 1826 first *proposed* the entire removal of the upper jaw. In 1827 he attempted to carry his plan into execution for removal of a medullary sarcoma of the antrum, but was obliged to desist on account of the hæmorrhage.

On May 26, 1837, Gensoul, of Lyons, removed the entire superior maxilla with the whole of the palate bone. Patient recovered.

At length, in August, 1829, Mr. Lizars performed his second operation, which was successful. Surgeons of the present day do this operation as opportunity offers, with generally good results.

Resection of portions of the superior maxilla, for the purpose of securing access to tumors in posterior nares or fauces, is frequently practiced. The method of incision of the soft parts in order to reach the bone is a matter of importance, and deserves consideration.

Mr. Lizars used an incision across the cheek from the angle of the mouth to the malar bone, or, when the tumor was very large, employed an incision through the lip into the nostril, with a vertical cut at the malar bone. With the saw and bone-forceps the maxilla was separated and removed. This was the cut made by most surgeons until Sir William Fergusson proposed an important modification in the method of procedure. The deformity resulting from the methods in vogue led him to devise the plan of carrying the incision solely through the medial line of the lip into the nostril in the manner used by me, and described in my note of the operation.

In operations in this region the hæmorrhage is, in some cases, very profuse; but, if done rapidly and dexterously, securing the larger bleeding vessels with clamps, the surgeon need not fear fatal bleeding.

I will bring my paper to a close with a few remarks as to the class of cases in which the operation is justifiable.

Necrosis of the upper jaw, whether as the result of injury or disease in neighboring soft parts, syphilis, etc., requires operation, sometimes even to the extent of removal of the entire jaw.

Non-malignant tumors of the upper jaw, as fibroma and enchondroma, occasionally attain a size requiring removal of the entire bone.

Hyperostosis of the jaw, which consists primarily in periosteal inflammation, leading to the deposit of new bone and the expansion and filling up of the original osseous structure, is unconnected with syphilis or struma, and appears to be beyond the control of remedies, and not infrequently reaches so great a size as to cause much deformity and justify the removal of the entire maxilla.

It is in connection with malignant tumors of the upper jaw that the surgeon is often called upon to decide as to the propriety of removal.

It is now well established by a large experience that the operation for cancer, even when so radical as the removal of the entire jaw, does not result in a cure, the disease being almost certain to recur. Nevertheless, the possibility of a non-recurrence, and the positive temporary relief afforded, in connection with the moral effect of the operation, will, in my opinion, justify surgical interference.

In the case above narrated, both the patient and his wife declare that, although the disease has again appeared, and no further operation is contemplated, the relief from pain and horror experienced after the operation renders them satisfied that it was done.

When the patient sailed for Cuba, about the middle of September last, a careful inspection of the cavity, seen through the opening in the roof of the mouth, revealed a recurrence of the disease to a slight degree. Under date of December 16th, I have heard by letter that the disease is progressing slowly. Mr. M. is decidedly of the opinion that the growth is retarded by the use of the fluid extract of red clover-blossoms, which he has used diligently ever since the operation in half-ounce doses three times a day.

ON SURGICAL TUBERCULOSIS.[*]

By R. J. HALL, M. D.

Since Koch's announcement of the discovery of the *Bacillus tuberculosis*[†] the medical press has devoted more time to this subject than perhaps to any other in the whole range of medical science. To those who had not followed the steps by which the problem had been brought day by day nearer to its solution, Koch's announcement seemed either an audacious theory, opposed to the results of all previous clinical and pathological research, or a stroke of genius, answering at once the question which had baffled all others.

Many, however, who had followed the subject from the beginning, saw in Koch's discovery but the absolute proof of that which, on other grounds, they had long held to be practically certain.

Although, on account chiefly of the immediate value of the discovery for diagnostic purposes in diseases of the lungs, most of the recent contributions have had reference to cases lying rather in the domain of medicine than of surgery, yet the latter has been by no means entirely neglected. In this country, however, the recognition of the tubercular nature of many surgical affections has been extremely slow. Thus, while so great an authority as Koenig, in Germany, does not hesitate to say that the surgeon, when speaking of chronic inflammation, scarcely thinks of anything but tubercular disease,[*] in an edition so recent as 1883, of a widely read American work on diseases of the joints, tuberculosis is not mentioned as a factor in pathology or ætiology; and it is not too much to say that numbers of surgeons of considerable experience never get beyond the terms "strumous" or "scrofulous" in their diagnosis of these same affections.

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[*] Read before the New York Surgical Society, November 11, 1884.

[†] "Ber. klin. Wochensch.," 15, 1882; "Arch. für Anat. u. Physiol.," physiol. Abth., S. 190, 1882.

I do not hesitate, therefore, to present the results of my own examinations of material from cases of surgical tuberculosis, with reference to the presence and histological relations of the bacillus. It will be necessary first to sketch briefly the arguments which, in my opinion, render the mycotic origin of tubercle an established fact in medical science, and no longer a mere theory. The subject has been so conclusively dealt with by Koch himself [†] that but little is left except to give a *résumé* of the argument as presented by him.

The idea that tuberculosis is an infectious disease is by no means new. Klencke, as has been pointed out by Spina[‡] and Koch,[#] first successfully inoculated animals with human tuberculosis in 1843. Villemin, however, was the first to attract general attention to the subject by a series of successful inoculations, accompanied by a number of carefully conducted control experiments with non-tubercular material, the latter giving always negative results.[‖]

At first these views were received with general favor; but soon a large number of experimenters announced that they had arrived at very different results, that inoculations with the most varied non-tubercular animal and vegetable substances also produced tubercular lesions, especially in animals predisposed to the disease. Among these, the reports of Burdon Sanderson,[△] Wilson Fox, [◊] and Cohnheim and Fränkel,[↧] may be mentioned as having appeared especially conclusive, and having been most extensively quoted.

When these experiments, however, are examined in detail, they are found, as has been well pointed out by Raymond and Arthaux, in an exhaustive article on the subject,[↕] to have fallen into errors due to neglect of precautions especially insisted on by Villemin. It is unnecessary now to discuss the cause of failure in those cases where tubercular material was inoculated and no tuberculosis produced, since not the strongest opponents of the theory of a specific poison would now deny that tuberculosis can be produced by inoculation with tubercular material. In those cases where it has been alleged that tuberculosis has been produced by inoculation with indifferent non-tubercular substances, the observers have sometimes trusted to the macroscopic appearances, calling any nodules found on autopsy of the animals experimented on tubercles. In this way the nodules in the livers of rabbits—due to the eggs of strongylus, tænia, and other parasites, and so common that, in three hundred otherwise healthy rabbits examined by Raymond and Arthaux,[*] almost all contained them—have undoubtedly been taken for miliary tubercles; and the same has, probably, been the case with small foci of broncho-pneumonia and miliary abscesses in the lungs, in experiments by inhalation. Or the observers have depended on an insufficient histological examination of the inflammatory products. Or, perhaps the most frequent error of all, they have operated with a total neglect of all precautions in selecting healthy animals, having clean knives, hands, and operating-rooms, keeping the animals separate from others already infected, and under good hygienic conditions. No single observer has yet inoculated animals with non-tubercular material, using the necessary precautions mentioned above, produced a progressive tuberculosis, *and proved that it was tuberculosis by further inoculations in series on other animals*; yet nothing less than this would be necessary to outweigh the overwhelming evidence on the other side, for all this can be accomplished with certainty by the use of tubercular material. It is important also to note that Cohnheim, feeling doubtful of the reliability of his own experiments in the crowded and dirty laboratories in Berlin, repeated them in Breslau, with proper precautions, using chiefly the anterior chamber of the eye for inoculations, and with entirely opposite results, producing tuberculosis invariably with tubercular material, and never with any other;[†] and recently Dr. Dawson Williams, at the request of Dr. Sanderson and Dr. Wilson Fox, repeated their experiments, using every precaution against accidental infection, and also with entirely negative results. These experiments were controlled by Dr. Wilson Fox himself, who was present when Dr. Williams read his paper.[‡] Among many others who have made extensive observations, with the same results, may be mentioned H. Martin,[#] P. Baumgarten,[‖] K. Schuchardt,[△] Damsch,[◊] Tappeiner,[↧] Dieulafoy et Krishaber,[↕] and Koch himself.[⇟]

Having been led to the conclusion, on the foregoing and other grounds, that tuberculosis was possibly due to a specific poison of a parasitic nature, the steps pursued by

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[*] "Die Tuberculose der Knochen u. Gelenke," etc., "Samml. klin. Vortr.," No. 214.

[†] "Mittheilungen aus dem kais. Gesundheitsamt," B. II.

[‡] "Studien über Tuberculose," S. 30, Wien, 1883.

[#] "Die Aetiol. der Tuberculose," "Mittheil.," etc., B. II, S. 2.

[‖] "Gaz. hebdom.," 1866, Nos. 42–49; "Études sur la tuberculose; preuves expér. de sa specificité," Paris, 1868.

[△] "British Med. Journal," 1868.

[◊] "A Lecture on the Artificial Production of Tubercle," Royal College of Physicians, May 15, 1868.

[↧] "Exper. Untersuch. über die Uebertragbarkeit der Tuberculose," Virchow's "Arch.," B. 45, 1869.

[↕] "Recherches expérimentales sur l'étiologie de la tuberculose," "Arch. gén. de méd.," p. 25, 1883.

[*] *Op. cit.*

[†] Cohnheim u. Salomonson, "Sitzungsber. der schles. Gesell.," 1877; Cohnheim, "Allgemeine Pathologie," Die Tuberculose vom Standpunkte der Infectionslehre.

[‡] "Lancet," December, 1883, p. 991.

[#] "Nouvelles recherches sur la tuberculose spontanée et expérimentale," etc. "Compte rendu de séances et mém. de la soc. de biol.," 1880, p. 373.

[‖] "Ueber Tuberculose," "Deutsche med. Wochenschr.," No. 22, 1882.

[△] "Impftuberculose des Auges," etc.; Virchow's "Arch.," 88, S. 28.

[◊] "Ueber die Zuverlässigkeit von Impfungen in die vordere Augenkammer," etc. "Deutsche med. Wochenschr.," 1883, p. 247.

[↧] "Tappeiner," "Wien. med. Presse," 1877.

[↕] "De l'inoculation du tuberc. sur le singe," "Arch. de physiol.," i, 1883, p. 424.

[⇟] *Op. cit.* See also Watson Cheyne, "Fortschritte der Med.," 1883, No. 8.

Koch,[*] as described by himself, were as follows: 1. To determine whether in tubercular tissues elements occurred foreign to the tissues and not produced by them. 2. Having found such elements, to prove that they were living organisms which could be distinguished from others of the same family, and capable of indefinite multiplication. 3. To show that tissues containing these organisms, as we may now call them, when used for inoculation, produced the disease, and that no other tissues did so. 4. To cultivate these organisms on suitable soil and with suitable precautions against contamination, through successive generations, until it was absolutely certain that none of the original material was present, and with these pure cultures to produce the same disease; and, lastly, to show, by a sufficient number of control experiments, that inoculation with indifferent substances never does produce tuberculosis. All this has been accomplished by Koch, with marvelous accuracy and minuteness of detail, in such a way as not to leave a loophole of escape from his conclusions. His experiments and observations extend over hundreds of cases with the most uniform results. As has been well said by a recent reviewer, "it is fair to predict that, among the future assailants of Koch's work, there will be very few men of judgment who have read the work in the original.[†] As for the various attacks that have been made upon Koch, they have been so conclusively answered by himself that it is scarcely necessary to do more than refer to his own article in answer to his opponents.[‡] It is worthy of note that among the numerous adverse critics, with the exception of some quite inconclusive inhalation experiments by Balogh [#] and Schottelius,[‖] only two, Spina and Formad, profess to have repeated Koch's work. Spina's[△] two or three experiments fail so utterly to comply with the conditions necessary in such an investigation as to be absolutely puerile, and quite worthy of the contempt with which Koch treats them, while I can not discover that Formad has made any experiments on the subject except those implied in the statement[◊] that almost all animals in laboratories acquire tuberculosis, no matter what operation has been performed on them. This, in the present state of scientific knowledge on the subject, produces, as a critic has remarked, somewhat the same effect on the mind of the reader as if a surgeon should say that pyæmia could not be due to a specific poison, because all the patients operated upon in his wards died of it. It is perhaps of purely historical interest that, while Formad gives abnormal narrowness of the lymph-spaces as one of the anatomical causes of tubercle, Hueter had already suggested an abnormal wideness of the lymphatic system as the probable cause of the same.[*]

Assuming, then, as proved, the ætiological relation of the tubercle bacillus to tubercular processes, let us consider what interest this has for surgeons. From a pathological point of view, the identity of the inflammatory products, in the more important surgical diseases, with the pulmonary tuberculosis of Bayle and Laennec was very early recognized. Delpech[†] maintained the tubercular nature of Pott's disease, as did Nichet,[‡] very shortly after the publication of Laennec's views. Nichet also describes cold abscesses independent of bone disease formed by the confluence and breaking down of tubercle. Nélaton,[#] in 1836, describes tubercular osteitis, encapsulated and diffuse, its various terminations, and the ways in which it affects the joints, almost as minutely as Koenig has done recently in his admirable monograph on the subject.[‖] All these investigations, however, were founded chiefly on the macroscopic appearance of the miliary tubercle. It was not until the description of the giant-cell by Langhans,[△] and the demonstration of epithelioid cells, surrounded by a fine reticulum and forming a nodule inclosing usually one or more giant-cells, by Schüppel,[◊] gave a firm anatomical criterion for the diagnosis, that exact investigations could be made. Then followed the demonstration of tubercular disease in almost every tissue and organs of the body. Among the most important, from a surgical point of view, the following may be mentioned: K. Köster,[‡] in 1869, founding his conclusions on a careful examination of nine cases, first described miliary tubercles as a constant occurrence in fungoid joint diseases. Ranvier[‡] had already described tubercular osteitis. Friedländer[‡] found tubercles in caries of bone, in scrofulous skin diseases, lupus, the os uteri, the wall of a mammary cyst, and other unexpected places. Schüppel,[**] in 1871, described tubercular lymphadenomata so minutely that pathologists have had scarcely anything to add and nothing to alter since, and declared the tubercle-like lymphadenomata of E. Wagner[††] to be really tubercle. Köster[‡‡] found tubercles in fungoid osteitis and osteomyelitis, independent of joint disease, in almost every portion of the male and female genito-urinary tracts, in the larynx, the mamma, and the tongue. R. Volkmann,[*] in 1879, and Lannelongue,[†] in 1880, describe in detail the tubercular character of cold abscesses, the latter including those not dependent on tubercular disease of bone. G. Feurer [‡] examined twelve cases of vertebral caries and found nine certainly, the remaining three probably, tubercular. Koenig [#] has recently called renewed attention to the frequently tubercular character of the common chronic hydrops of joints and sheaths of tendons, in the latter especially when accompanied by rice-bodies, and also of some fibrous foreign bodies in joints. The joint affections had already been carefully studied by Riedel,[‖] but, in the increasing skepticism as to the common origin and pathological importance of tubercular products, had been almost completely lost sight of. Bizzozero,[△] in 1874, described tubercular disease of the skin, of the sheaths of tendons, and other regions. K. Ohnacher [◊] has recently published two cases of tuberculosis of the mamma with great detail, and a complete account of all previously observed cases. Nedopil,[↧] though by no means the first, has discussed tubercular disease of the tongue more fully than any other author. For a more complete literature I would refer to the works of Virchow [↕] and E. Aufrecht [↨] for the older observations, and to the elaborate articles of Neisser,[**] Mögling,[††] and Charvot,[‡‡] for the more recent. In spite, however, of the enormous amount of work done in this direction, the absence of what could be considered as direct proof of the ætiological unity of all tubercular products made it difficult to draw any very practical conclusions from the knowledge obtained, and many of the authors mentioned above considered the frequency with which tubercle could be demonstrated in diseases clinically so utterly unlike as the strongest argument against the theory of its specific character. Rindfleisch's view, so widely accepted, of tubercle as merely an ordinary inflammatory process, modified by the constitution of the individual in whom it occurred, and the great authority of Virchow,[##] who, defining tubercle as a neoplasm and scrofula as an inflammatory process, running a peculiar course from local or constitutional causes, affecting the nutrition of the part, designated a very large proportion of surgical tuberculoses as scrofulous—tended to deprive these observations of their true importance.

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[*] "Mittheil. aus dem kaiserlich. Gesundheitsamt," B. II. Die Aetiologie der Tuberculose.

[†] "American Journal of the Med. Sciences," No. clxxv, p. 191.

[‡] "Kritische Besprechungen der gegen die Bedeutung der Tuberkelbacillen gerichteten Publicationen," "Deutsche med. Wochenschr.," 10, 1883.

[#] "Wiener med. Blätter," 49, 1882. Die Tuberkelbacillen in Budapest; Ref. in "Centralbl. f. klin. Med.," 6, 1883.

[‖] Virchow's "Arch.," 91, S. 129. Zur Kritik der Tuberculose-Frage.

[△] *Op. cit.*

[◊] "Phila. Med. Times," November 18, 1882. The Bacillus Tuberculosis, etc.; see also "N. Y. Med. Jour.," February 16, 1884. The Bacillus Tuberc., etc., H. F. Formad; "N. Y. Med. Jour.," May 24, 1884. The Amer. Med. Assoc., Tuberculosis, H. F. Formad, and discussion; "N. Y. Med. Jour.," June 14, 1884. Report of Phila. Co. Med. Soc., discussion of Dr. Formad's paper on the Bacillus Theory of Tuberculosis; "N. Y. Med. Jour.," June 28, 1884. Letter from Dr. H. F. Formad. A criticism of Dr. Formad's printed statements and conclusions concerning the Ætiology of Tuberculosis, E. O. Shakespeare, "N. Y. Med. Jour.," August 9 and 16, 1884. "Centralblatt f. klin. Med.," No. 6, 1883. Criticism of Dr. Formad's first article.

[*] "Die Scrophulose und ihre lokale Behandlung als Prophylaxe gegenüber der Tuberculose." Volkmann's "Samml.," 49.

[†] Ref. in "Schmidt's Jahrbücher," No. 13, 1837, p. 309. [‡] *Ibid.*

[#] Inaug. dissert., Paris, 1836, No. 376.

[‖] "Die Tuberculose der Knochen und Gelenke," Berlin, 1884.

[△] "Ueber Riesenzellen mit wandständigen Kernen in Tuberkeln, und die fibröse Form des Tuberkels." Virchow's "Arch.," B. 42, 1868.

[◊] "Untersuchungen über Drüsentuberculose," etc., Tübingen, 1871.

[‡] Virchow's "Archiv," xlvii, 1, p. 94.

[‡] Article on Osteitis, Caries, and Tubercle of Bone. "Arch. de physiol.," 1868; ref. by Kiener and Poulet, *ibid.*, i, 1883, p. 284.

[‡] Volkmann's "Samml.," 64, 1873. Ueber locale Tuberculose.

[**] *Op. cit.*

[††] "Das tuberkelähnliche Lymphadenom."

[‡‡] "Med. Centralbl.," 1873, 58. Ueber locale Tuberculose; ref. in "Schmidt's Jahrb.," B. 162, 1874. Aufrecht, "Ueber Tuberculose," p. 301.

In 1879 Volkmann's [*] article, "Ueber den Charakter und die Bedeutung der fungösen Gelenkentzündungen," appeared. Founding his conclusions on examinations made by himself and his assistant, Friedländer, he declared the whole class of fungoid joint diseases—caseous lymphomata, cold abscesses, scrofulous ozæna, many rectal fistulæ, and obstinate ulcers of mucous membranes and of the skin—to be tubercular. He accepted fully Villemin's theory, which has been so much disputed, of the specific character of tubercle, and pointed to the frequent infection of all the parts surrounding a tubercular center, as most strongly confirmatory of this. Acting upon these views, he advocated the complete extirpation of all tubercular material, wherever accessible, as the only reliable means of curing the local disease, and guarding against general infection. Hueter [†] had already advocated the same principles with great earnestness, though with less clear views as to the nature of the pathological processes; and Koenig, as he himself informs us, in the dedication of his monograph, already mentioned, while on a visit to Halle some twelve years ago, became an enthusiastic convert to the doctrines of his friend Volkmann. Under the guidance of these three great men, German surgeons accepted the new teaching almost universally, and applied it so widely in operative practice as to have brought about at the present day a quite decided reaction. In France, however, it found few adherents; this is well illustrated by a discussion of the subject, as applied to diseases of the joints, so late as 1882, in which many of the prominent French surgeons took part, and Lannelongue, whose work has been already referred to, almost alone supported the German opinion. In England and America a reference to almost any of the most recent surgical works will show that it can scarcely be said to have made progress at the present day.[‡]

Even in Germany, dissenters were not wanting among surgeons. Lücke, in 1880 [#] and 1881,[‖] denied the ætiological unity of the chronic bone diseases in which the histological tubercle is found, attributing them to five different causes, as follows:

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[*] Volkmann's "Samml.," 168, 169. Ueber den Charakter und die Bedeutung der füng. Gelenkentzündungen.

[†] "Bull. de la soc. de chir.," 1880.

[‡] "Anat. Untersuch. über Spondylitis," Virchow's "Arch.," B. 82.

[#] "Die Tuberculose der Knochen und Gelenke," Berlin, 1884, pp. 17 and 25.

[‖] "Deutsche Zeitschrift f. Chir.," B. x. Zur Aetiologie der fibrinösen Fremdkörper im Knie, etc. *Ibid.*, B. xii. Ueber isolirte tuberculöse Geschwülste des Kniegelenks.

[△] "Centralbl. f. Chir.," 1874, p. 278. [◊] Langenbeck's "Arch.," 28.

[↧] "Wiener Klinik," 1881, H. ix. Ueber tuberculöse Erkrankungen der Zunge. [↕] "Geschwülste," B. ii, 1864-'65.

[↨] "Schmidt's Jahrb.," 144, P. 213 and 162, p. 297. Zur Lehre von der Tuberculose.

[**] Von Ziemssen's "Handb.," B. xiv. Handb. der Hautkrankheiten. Neisser, "Die chronisch. Infectionskrankh. der Haut," 1883.

[††] "Mitth. aus der chirurg. Klinik zu Tübingen," H. ii, p. 248, 1884. Ueber chirurg. Tuberculose.

[‡‡] "Rev. de chir.," Nos. 5, 6, and 8, 1884. De la Tuberculose chirurgicale. (Not yet completed at the time of writing.)

[##] "Geschwülste," vol. ii. See also Waldenburg, "Die Tuberculose, Lungenschwindsucht und Scrophulose," Berlin, 1869; Spina, "Studien über Tuberculose," Wien, 1883; A. Johne, "Die Geschichte der Tuberculose," Leipzig; A. Johne, "History of Tuberculosis, with a special consideration of Tuberculosis in Cattle," "Journal of Comp. Med. and Surg.," Jan., 1884, p. 44.

[*] Volkmann's "Samml. klin. Vortr.," 168, 169.

[†] "Die Scrophulose und ihre locale Behandlung, als Prophylaxe gegenüber der Tuberculose." Volkmann's "Samml.," 49.

[‡] "Discussion sur les variétés des tumeurs blanches," "Bull. de la soc. de chir.," 7, 21, 1882; Macnamara, "Tuberculous Disease of Bone,' "Brit. Med. Journ.," 1883, ii, pp. 1119 and 1180; H. T. Butlin, "Scrofula and Tubercle," "Internat. Encyc. of Surg.," vol. i, p. 231; Howard Marsh, "Abscesses," *ibid.*, vol. ii, p. 257; R. Barwell, "Diseases of the Joints," *ibid.*, vol. iv, p. 261; Bryant's "Surgery," 3d American ed., p. 869, and note by American editor; Lewis A. Sayre, "Orthopædic Surgery and Diseases of the Joints," 2d ed., 1883; V. P. Gibney, "Diseases of the Hip," 1884, The Ætiology of Chronic Articular Osteitis, p. 303, etc.

[#] "Deutsche Zeitsch. f. Chir.," B. xiii. Die Aetiologie der chron. Ostitis und Periostitis.

[‖] "Deutsche Zeitsch. f. Chir.," B. xiv. Einige nachträgliche Worte über die Aetiol. der chron. Ostitis und Periostitis.

1. Hereditary and acquired tuberculosis and scrofulosis.
2. Hereditary and acquired lues.
3. Former attacks of infectious diseases, as pyæmia, osteomyelitis, typhus, etc.
4. Trauma.
5. Gout.

Sonnenburg, in 1881,* headed what promised to be a formidable revolt, among the younger men, against the specific theory, had not Koch's discovery, so shortly afterward, afforded the means of placing it in an unassailable position.

In Koch's earliest publications on the subject, already referred to, the occurrence of the bacilli in surgical tuberculosis was demonstrated, and the extraordinarily small numbers in which they are usually found was noticed. Shortly afterward more extensive observations were published by Schuchardt and Krause, † showing, on the evidence of a large number of cases, the constant occurrence of the bacillus. It will be more convenient to give the particulars of these and other reports hereafter, when discussing the tuberculoses of different regions.

(*To be continued.*)

FALSE ALBUMINURIA.‡

By GASPAR GRISWOLD, M. D., M. R. C. S.

Under the title of "false albuminuria" this paper will include two distinct classes of cases:

1. Cases in which the urine does *not* contain albumin, but in which a precipitate resembling albumin is caused by the ordinary tests; and
2. Cases in which albumin is actually present in the urine, but does not come from the kidney.

The detection of slight degrees of albuminuria is often more important in practice than the determination of larger amounts, for the cases in which the albuminuria is so ill-defined as to be doubtful are just those in which dropsy and other characteristic symptoms are least marked and in which we are most dependent upon urinary analysis in making a diagnosis. It is very easy to determine the existence of renal disease when the urine contains albumin and casts in abundance, and the patient presents the familiar dropsical appearance; but where there are no symptoms beyond a somewhat persistent headache with restlessness and occasional digestive disturbances—just enough to suggest the possibility of kidney trouble—it becomes a very difficult problem to determine the importance of a faint trace of albumin in the urine. We ascertain the specific gravity and the quantity passed—both are not far from normal. In such a case we then examine carefully for casts, but very rarely find them; for, even if they are present, they are usually so scarce that it is a matter of remote chance to hit upon one. While the discovery of casts is conclusive evidence that the kidneys are affected, the failure to find them certainly can not be taken as proof that the kidneys are sound. This brings us face to face with the question whether, the urine being normal in all other respects, we may not have been mistaken about the trace of albumin? The patient may be suffering only from dyspepsia after all, and the slight precipitate which we obtained may not have been due to albumin, but to some error in testing the urine? Or may not some peptone, imperfectly elaborated in the course of the indigestion of which the patient complained, have got into the urine and given us a precipitate resembling albumin? Or, even further, supposing the precipitate to be albumin, may not the small quantity which we observed have come from some irritation of the bladder or prostate? It is obviously of the greatest importance, as regards both prognosis and therapeutics, to be able to decide whether a slight cloudiness or deposit which occurs in a specimen of urine when tested is really albumin, and, if so, whether the albumin comes from the kidney or not. In discussing these questions only the tests with heat and nitric acid will be referred to, but it will be assumed that in all doubtful cases scrupulously clean test-tubes are used, the urine filtered before testing, and the presence or not of a precipitate determined by looking through the urine at a black background in a good light. *The accurate compliance with all these detailed requirements is absolutely essential, and no results are reliable in obtaining which they have been neglected.*

The test spoken of in this paper as the "cold nitric-acid" test is performed as follows: Into a test-tube of small caliber is first poured one drachm of pure colorless nitric acid. About one drachm of the suspected urine is then allowed to flow down the side of the tube, drop by drop, from a pipette, so as to float upon the nitric acid without mixing with it. If albumin is present, a sharp white band appears at the point where the acid and urine are in contact. This is often spoken of as Heller's test, and is generally admitted to be the most certain and satisfactory method of determining the presence of small quantities of albumin.

The substances which may precipitate so as to simulate the presence of albumin claim consideration first; they are phosphates, mucus, uric acid, peptones, and resinous drugs like copaiba.

Phosphates.—The old familiar statement that phosphates are precipitated when *alkaline* urines are heated has done harm in making many forget that the same thing may occur with distinctly *acid* specimens. It frequently happens that urine which turns blue litmus red gives a precipitate on boiling which disappears when a few drops of nitric acid are added. In such a specimen, if sufficient acid is added previous to boiling, to prevent the precipitation of phosphates, the precipitation of albumin may also be thereby interfered with; for in very acid urine small quantities of albumin are often converted into acid albumin and will not then be precipitated on boiling.

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* Langenbeck's "Arch.," B. 26, S. 789. Bedeutung der Tuberkel bei den (fungösen) Knochen- und Gelenkentzündungen.

† "Fortschritte der Medicin," 9, 1883. Ueber das Vorkommen der Tuberkelbacillen bei fungösen und scrophulösen Entzündungen.

‡ Read before the New York State Medical Association, November 20, 1884.

The best test for urine which deposits phosphates on boiling, in spite of being acid, is the cold nitric-acid test. In this way the presence of albumin will be distinctly shown without any precipitation of phosphates to obscure it.

Mucus.—Normal urine often contains a considerable quantity of mucus, more or less dissolved at first, but separating as the urine cools, and producing a cloudy appearance. Mucus is not precipitated either by boiling or by nitric acid, and therefore does not usually interfere with the tests for albumin. There are two exceptions to this rule: 1. When the urine is alkaline. 2. When so much mucus is present that the urine is too cloudy for a slight precipitate of albumin to be seen distinctly. Before discussing the former exception, it will be necessary to recall the fact that if a small quantity of albumin is present in alkaline urine it is apt to be converted into *alkali-albumin*, and will not then be precipitated on boiling. If the specimen be first neutralized by adding to it a few drops of acetic acid, and then boiled, the albumin will be precipitated as usual. It is therefore necessary to neutralize alkaline urine before employing the heat test for albumin; and it is further necessary that acetic acid should be used for this purpose and not nitric acid, for the addition of a few drops of nitric acid previous to boiling will sometimes prevent entirely the precipitation of albumin, even in specimens which contain it in abundance. The author has had under his care one case in particular of advanced Bright's disease with extensive dropsy and casts, in which the previous addition of a few drops of nitric acid prevented any precipitate on boiling, although the urine contained a large quantity of albumin. In this case the presence of albumin was always plainly shown by the cold nitric-acid test, or by boiling after neutralization with acetic acid instead of nitric. Now, if a specimen is to be examined which is alkaline and also contains mucus, a difficulty presents itself in the fact that acetic acid precipitates mucus. If we boil the alkaline urine without neutralizing it, the albumin contained may not be precipitated. If we add acetic acid to neutralize the urine, the mucus may be precipitated so as to resemble albumin; and we can not neutralize the urine with nitric acid, because this again may prevent the albumin from being precipitated. From these considerations it is evident that we can not depend upon the heat test to show a small quantity of albumin in an alkaline urine which contains mucus. Under the circumstances, it is best to employ the cold nitric-acid test, which precipitates albumin equally well in alkaline urine, and does not precipitate mucus.

Under the latter exception, when so much mucus is present that the urine is too cloudy for a slight precipitate of albumin to be seen distinctly, the mucus should be removed by the following process: Add two drachms of urine to an equal quantity of *liquor potassæ* in a test-tube, warm gently, and then filter. The fluid which comes through will be free from mucus, and may be tested for albumin by the cold nitric-acid test. The author has satisfied himself by experiment that the removal of mucus in this way does not interfere with the subsequent detection of small quantities of albumin. The experiment was as follows: In one test-tube were put *one drachm of an albuminous urine, one drachm of non-albuminous urine cloudy with mucus, and two drachms of liquor potassæ;* the mixture was then warmed and filtered in the manner described. Into another test-tube were then poured *one drachm of the same albuminous urine, one drachm of normal urine without mucus, and two drachms of water.* Both test-tubes, therefore, contained the same amount of albumin, and the same proportion of other constituents, the only difference being that the contents of one had been put through the *liquor potassæ* process for removing mucus, while the other had not. When these two specimens were subjected to the cold nitric-acid test, they each gave the same amount of albumin precipitate, showing that the mucus-removing procedures which one had undergone had not modified its subsequent reaction.

Uric Acid.—If a specimen of urine contains uric acid or urates in considerable quantity, a mistake may be made as follows: A specimen of acid urine is boiled, and a few drops of nitric acid then added, without the appearance of a precipitate. The test-tube is put aside for perhaps fifteen minutes, and then looked at again and shaken. A precipitate may now be present, which is apt to be mistaken for albumin. It is probably composed of urates and uric acid, which have been deposited as the urine cools, because the specimen has been rendered more concentrated by boiling and more acid by the addition of nitric acid. To settle the question, boil the urine again; if the deposit is albumin, it will remain unchanged; if it is anything else, it will redissolve and disappear.

There is also a possibility of error when concentrated urine is tested by the cold nitric-acid method. In this case a precipitate of uric acid and urates, somewhat resembling albumin, may form near the point where the urine and nitric acid are in contact. This is best avoided by diluting the urine with three or four parts of water before pouring it upon the acid. The urine will then no longer be concentrated enough to yield a precipitate of uric acid and urates, and the reaction for albumin will not be interfered with.

Peptones.—These more or less digested forms of albumin are often present in the urine, both in cases where the urine also contains ordinary albumin, and in cases where it does not. True peptone, or completely digested albumin, is not precipitated by nitric acid, nor by heat, and, consequently, does not claim discussion in this paper; but there is a form of incompletely digested albumin, called hemipeptone, which is precipitated by cold nitric acid, and, therefore, must be mentioned here. It was first described by Bence Jones, and from this is commonly called "Bence-Jones albumin." He found it in the urine of a case of osteomalacia. It is not precipitated by boiling; it gives a precipitate like ordinary albumin with cold nitric acid, but this is redissolved on the application of heat. In this way it may be easily distinguished from ordinary albumin, and here lies its sole importance; it possesses no established clinical significance.

Resinous Drugs, like Copaiba.—Nitric acid often causes a precipitate in the urine of those who are taking copaiba, turpentine, or other resinous drugs. The odor of the urine, with the history of the patient, is generally sufficient to avoid error; but, in case of doubt, the addition of alcohol will dissolve the resinous precipitate and thus distinguish it from albumin.

When the urine contains blood, pus, prostatic fluid, or spermatic fluid, albumin will be present which must be distinguished from albumin coming from the kidneys.

Blood.—Urine containing a small quantity of blood has a smoky appearance; when a large quantity of blood is present, the urine is reddened and may contain clots. Even a very slight admixture of blood renders the urine highly albuminous. It is inferred that the albuminuria is dependent entirely upon the blood mixed with the urine, when the daily quantity and specific gravity of the urine remain normal, and no symptoms of renal disease are present. The presence of blood is usually determined by the microscope. In some cases, however, the corpuscles are dissolved in the urine, leaving only albumin and coloring matter to prove the hæmorrhage. In such a case, having found albumin, and suspecting, from its smoky appearance, that the urine contains blood, test for hæmoglobin as follows: Wet a piece of white blotting-paper in the urine, and dry it slowly over a spirit lamp. When it is dry, drop upon it two drops of tincture of guaiacum, and a moment later one drop of ozonic ether. If the urine contains hæmoglobin, a blue color will develop in a few minutes as the spirit evaporates and leaves the paper dry. This test can not be relied upon if the patient is taking iodine in any form.

It should be remembered in this connection that the urine often contains albumin in the course of jaundice. A urine containing bile coloring matter and albumin is to be distinguished from bloody urine in which the corpuscles have disappeared by solution. The distinction is made by testing for hæmoglobin as described above, and then for bile pigment with the familiar nitrous acid, or Gmelin's test.

Pus.—Urine containing pus in any quantity is always albuminous, the albumin coming from the pus serum. The only problem which is of interest to us in this connection is the discrimination between albuminuria from renal disease and albuminuria from bladder catarrh. If a specimen of urine, otherwise normal, contains a trace of albumin and a few pus cells, can we say that the presence of pus cells shows that the albuminuria is due to catarrh of the urinary passages? The books tell us that, if more albumin is present than would correspond with the quantity of pus cells in the urine, this excess must be referred to the kidney and be taken as evidence of renal disease. This statement is based upon the assumption that the relation between pus cells and pus serum is a constant one, and that so much pus serum is always exuded with so many pus cells. This is a mistake; there is thick pus, and thin, watery pus. Thin, watery pus contains more albumin in proportion to its cells than thick pus does; this may easily be proved by adding them to two specimens of normal urine until there is an equal deposit of cells at the bottom of each. The specimen to which thin pus has been added will then be found to contain much more albumin. This is further shown by the clinical fact that while one day a specimen may be seen containing a little albumin and a few cells, the next day one may be met with which contains just as many pus cells with no albumin. The albumin contained in the former specimen can not with certainty, therefore, be attributed to the pus present. Except in extreme cases, it is not possible to be sure that in pus-containing urine more albumin is present than the pus can account for. In such cases, the co-existence of renal disease can only be inferred from the presence of casts, and from morbid variations in the daily quantity and specific gravity, with appropriate associated symptoms.

Prostatic or Spermatic Fluid.—If a specimen of urine contains prostatic or spermatic fluid it will be slightly albuminous. In the London "Lancet" for May 13, 1882, Dr. Bradbury describes some cases of slight and intermittent albuminuria, in which he believes that spermatic and prostatic fluid was squeezed into the urethra during efforts at defecation, and so imparted an albuminous reaction to the urine. Senator also speaks of this in his work on albuminuria, and recommends that the urine first passed be thrown away, and a specimen taken from the later flow. In this way only that urine would be examined which was passed after the urethra had been washed out, and all such sources of error removed.

In conclusion, it may be said, by way of moral, that attention paid to the details of ordinary urinary analysis is time well spent, for there are few greater mortifications in the experience of a physician than to see albuminuria demonstrated where he has positively denied its presence, or to see its absence proved in a case where he has confidently affirmed its existence.

MARIENBAD

AND ITS WATERS AND BATHS.

By HENRY B. MILLARD, A. M., M. D.

As a matter of therapeutics, it is to be regretted that so little attention is given in America to the study and use of mineral waters. Accurate analyses have, indeed, been made of many of our springs, while those of others are vague or only qualitative, and are made, some of them, by chemists without repute and apparently in the interests of proprietors. In Europe, on the contrary, every spring of renown has been repeatedly analyzed by competent authorities, and great attention is paid to the study of mineral-waters. In France every spring has its *médecin inspecteur* appointed by the Government, prizes are awarded by the Academy of Medicine for essays on waters, and in nearly all medical societies there is a section in mineral waters. In France and Germany the literature of this subject is large and important. At home the appliances in the way of baths are usually imperfect and primitive; abroad they are often on a vast scale, luxurious and in magnificent buildings, comprise every variety, and are usually intelligently employed. The experience of my patients at home is to the effect that the resident physicians do not always address themselves with sufficient zeal to the employment of waters, hygiene, etc. To this, however, there are notable exceptions. I have passed altogether many seasons abroad at the various springs in France, Germany, and Switzerland, and know them to be, when suitable to the cases, of great value from a therapeutic standpoint. In addition, they nearly all possess the no small advantage of being situated in beautiful localities, while the comforts of living, as to food, lodging, attendance, etc., are very great—no small consideration whether one is sick or well.

I will not here specify springs that are of known value in complaints of the throat, nervous system, spinal cord, kidneys, etc., but will limit myself to a brief consideration of the features of Marienbad, where I have passed considerable time. Bohemia is rich in mineral waters; in addition to those of Marienbad, there are the well-known springs of Carlsbad, Franzensbad, Teplitz, Sedlitz, Pullna, the waters of Bilin, and others. Each summer finds at Marienbad about ten thousand visitors, the great majority of whom come for the "cure." It can be reached in twenty-seven hours from Paris; by taking one of the German steamers from New York and going to Hamburg or Bremen, it can be reached from these two places in about seventeen hours. Its situation and climate as a summer resort seem to me almost perfect. It is at an elevation of about nineteen hundred feet, in a broad valley, on each side of which rise lofty pine-clad hills; the village is surrounded, in such close proximity as to be but a few steps, on every side by pine forests interspersed with beautiful paths. The neighborhood affords an abundance of agreeable excursions. The air is highly invigorating, and, except for a few hours in the day, cool. There are a number of springs, some of them chalybeate, but most of them possessing, like those of Carlsbad, sulphate of sodium (Glauber's salt) in greater or less amount. To the first of these belong the Carolinen and Ambrosiusbrunnen, which contain a large proportion of iron to that of other ingredients, and the Alexandrin, which is a strong chalybeate; to the second belong the Kreutz and Ferdinandsbrunnen. Then there is the Marienbrunnen, containing only a very little solid matter, but highly impregnated with carbonic acid; it is used for baths; and the Rudolfsquelle, which contains lime and strongly resembles the waters of Wildungen (Germany). The following is the analysis of six of the springs:

	CONTAIN IN 16 OUNCES OF WATER	
	The Kreutz-brunnen.	The Ferdinandsbrunnen.
	Grains.	Grains.
Sulphate of sodium	38·040	38·766
" " potassium	0·401	0·326
Chloride of sodium	13·065	15·307
Carbonate of sodium	9·024	9·899
" " lithium	0·036	0·069
" " lime	3·990	4·183
" " strontium	0·006	0·006
" " magnesium	3·332	3·494
" " iron	0·270	0·471
" " manganese	0·024	0·121
Phosphate of aluminium	0·038	0·014
" " lime	0·014	0·015
Silica	0·630	0·741
Extractive matter, bromine and fluorine combinations	0·056	traces.
Total	68·926	73·502

	CONTAIN IN 16 OUNCES OF WATER			
	The Wald-brunnen.	The Carolinen-brunnen.	The Ambrosius-brunnen.	The Rudolfs-quelle.
	Grains.	Grains.	Grains.	Grains.
Sulphate of sodium	7·371	2·786	1·451	0·810
" " potassium	1·995	0·012	traces.	0·172
Chloride of sodium	2·815	0·844	0·384	0·450
Carbonate of sodium	4·823	1·964	0·737	1·067
" " lithium	0·007	0·004	traces.	traces.
" " lime	2·611	3·557	1·862	8·573
" " magnesium	1·889	1·395	0·848	5·148
" " iron	0·179	0·310	0·338	0·319
" " manganese	0·035	0·028	0·023	0·057
Phosphate of lime	.....	0·012	0·010	0·026
" " aluminium	0·015	.....	.....	0·096
Silica	0·676	0·536	0·361	0·096
Extractive matter	traces.	0·180	0·012	.....
Total	22·416	11·628	6·026	16·718

The *Alexandrinenquelle* is a strong chalybeate. It contains 11·3 grains of sulphate of potash and 2·24 of the carbonate of oxide of iron to sixteen ounces.

Their temperature is about 49° F., and they are all, as they issue from the granite mountains, rather agreeable, though the Kreutz and Ferdinandsbrunnen are somewhat bitter. It is apparent that the Glauber's salt in these two last (the strongest in sulphate of sodium, I believe, of any springs) is the most important ingredient, though other elements, as the other salts of sodium, potassium, lithium, iron, etc., have also an important action in many pathological conditions. The mud-baths are of great value, but their English appellation is rather misleading. Mud, when made up, they undoubtedly are, but of mother Earth they do not contain much, one kind containing only two and a half, the other less than five per cent. The earth from which the baths are prepared is found in the forests, within a mile or two of Marienbad. It is permeated with springs of carbonic-acid and chalybeate waters. The earth is finely ground, and mixed (freshly for each bath) to the consistence of thick treacle, with water, at a temperature of about 90° F. After immersion in the bath for from fifteen to twenty minutes an attendant washes off the mud, which is only slightly adherent, and a bath of fresh water is employed. That these baths may possess medicinal properties is evident from the following analysis, by Professor Lehmann, of Jena, of one of the varieties used:

a. Substances soluble in Water:

	Parts.
Potash	2·06
Soda	1·28
Ammonia	2·78
Lime	18·92
Magnesia	3·66
Alumina	35·37
Protoxide of iron	73·51
Sulphuric acid	212·96
Silica	1·03
Quellsäure	21·44
Other organic substances and loss	47·59
Formic acid	4·28
Other volatile acids	14·51
Total	458·41

b. Substances soluble in Muriatic Acid:	
Alumina	1·84
Oxide of iron	20·41
Sulphur	39·79
Phosphoric acid	6·02
Silica	0·79
Water, and organic substances	6·13
Total	52·80
c. Insoluble Organic Substances:	
Humus substances	42·53
Wax	10·34
Resin	24·52
Vegetable residue	404·23
Total	469·08
d. Mineral Substances not decomposed	17·71
Total	1,000·00

The same celebrated chemist declares that the new Marienbad mud considerably exceeds all the muds hitherto analyzed, including that of Franzensbad, in the amount of iron contained; and a mud-bath (10 cubic feet), according to his calculation, contains the immense quantity of ten to twelve pounds of sulphate of iron, seven ounces of formic acid, and eight ounces and a half of other volatile organic substances.

Therapeutic Uses of the Waters.—The Kreutz and Ferdinandsbrunnen are suitable in stases of the system of the vena porta, also to tympanites abdominalis, chronic gastro-intestinal catarrh, enlargement of the hæmorrhoidal veins, hyperæmia of the liver, etc. These waters bring about increased activity of the intestinal canal and the secretion and excretion of the glands connected with it, and the circulation of the blood is facilitated by the greater increased transudation and diminished pressure.

Obesity (*pimelosis nimia*) is a condition for which Marienbad is much resorted to. The large number of fat men and women, with protuberant abdomens and over-exuberant mammæ, that one meets constantly, is very curious. Ladies who weigh three hundred pounds are very common. That obesity and abdominal plethora may be often, and usually are, diminished here, is certain, as I have seen many cases where from ten to thirty pounds have been lost in one season. The sulphate of sodium is shown, by physiological experiments, to diminish the transformation of substances rich in nitrogen, and to direct the process of oxidation more to the fatty parts. For persons leading sedentary lives, who suffer from venous plethora, for indolent rich people, where there is a tendency to excessive fat, and women at the climacteric period, with a tendency to obesity, general or local, these waters are well suited.

They should not, however, be employed in stases produced by incurable tumors in the abdominal cavity, or by defective action of the valves of the heart, or which are produced by stoppage of large veins, or in greatly advanced pulmonary emphysema.

The special indications for their use are chronic catarrh of the stomach, a pasty tongue, eructations of wind, thirst, fœtid breath, etc.; these gastric symptoms will be the more likely to be helped if they form part of the general abdominal stasis, and are associated with hyperæmia of the liver, turgescence of the hæmorrhoidal veins, etc. Gastric complaints characterized by gouty complications, hyperæmia of liver, acute cardialgia, biliary concretions, chronic affections of the liver, tumors of the spleen, etc., are likely to derive great benefit.

Chronic ulceration of the stomach is often cured by these waters, as well as chronic catarrh of the intestines, characterized either by diarrhœa or constipation. Hæmorrhoidal conditions are greatly helped, and I have known several severe cases of hæmorrhoids apparently quite cured. In chronic hyperæmia of the liver, accompanied by evidences of high living, constipation, and venous plethora, the waters are specially appropriate.

I have known, this summer, a case of considerable hypertrophy of the liver, the result of intermittent fever, completely cured by the waters and poultices of the mud. When, however, the hypertrophy or congestion has its origin in valvular deficiency, or in stenosis of the bicuspid or tricuspid valves, or in disorders of pulmonary circulation, the waters are contra-indicated, as also in cirrhosis or chronic inflammation of the liver. In *fatty liver* (not fatty degeneration) the waters are particularly efficacious, as they also are in amyloid degeneration of the liver following intermittent fever. *Icterus and catarrh* of the biliary ducts likewise find their remedy here.

Biliary Calculi.—The waters are very efficacious in aiding the removal and preventing the formation of these; the number of biliary calculi voided at Marienbad each season is considerable, sometimes by people in whom their existence was not suspected. *Chronic enlargements* of the spleen often derive great benefit when due to long-standing congestion caused by malaria, by hepatic stases, and by obstruction of the circulation of the vena porta.

Urinary Concretions.—These waters are strongly diuretic, and are specially suited to the uric-acid diathesis, and prevent the formation of acid; the benefit is greater when the excessive uric-acid formation accompanies, as it usually does, gout or the gouty disposition, or rheumatism, with acid urine. One of my own patients, who had suffered for a long time from uric-acid gravel (nephritic calculi), producing severe hæmorrhages from the kidney and great pain, has been completely cured here. The lithic acid they contain is undoubtedly of use.

In *gout* the waters have a beneficial influence, as indeed they should when it is considered how much this affection is dependent upon abdominal stases, and if the statement of Garrod is correct, "that the venous constitution is the first and most essential point of development of the gouty diathesis," not only this, but nearly the entire class of symptoms induced by gout is benefited by these waters, acting by resolution of the uric acid and by stimulating the intestinal canal. The baths are of special use in concretions, chalk stones, and ankyloses. Bronchial asthma and emphysema occurring in persons suffering from obesity, abdominal derangements, and congestion or constipation, are often greatly benefited, while the Waldquelle is of great use in chronic catarrhs of the respiratory organs. The waters are suitable also in hypertrophy of the heart with general plethora, blood stases being diminished, the circulation rendered freer, and the activity of the heart diminished, while excretion and secretion on the part of the intestinal canal are greatly increased. The tendency to apoplexy in this ailment, with great plethora, is diminished, especially in persons leading sedentary lives, whose venous system is distended, and with whom there is an excess of adipose tissue. The adipose heart—that is, accumulations of fat about the heart—yields, *pari passu* with the diminution of fat throughout the rest of the system, to the use of the sulphate-of-sodium waters.

In *female ailments* caused by excessive obesity the waters and baths are particularly efficacious, as also in derangements of menstruation and the disorders of the climacteric period. In chronic metritis, by exciting diuresis and moderate catharsis, diminishing abdominal congestions and relieving constipation, much good is effected; also in the scanty menstruation of fat women, and at the menopausis, where local and general congestions, heat of the skin, with perspirations, etc., are so common. Menorrhagia is greatly diminished at the climacteric period, and indeed at any time. I have seen some remarkable instances of amelioration; scanty menstruation, so common in fat women, finds one of its best remedies in these waters. The sterility of fat women, which is frequently dependent on anomalies of menstruation, chronic catarrh of the uterus, or changes in the position of the uterus caused by excessive fat, is often cured.

In some cases of pyelitis and of chronic albuminuria I have known the waters, especially the Rudolfsquelle, to accomplish a great deal of good. When the albuminuria is accompanied by the uric-acid diatheiss or hepatic disorders, the Ferdinand or Kreutzbrunnen will be more likely to be of use. An advantage of Marienbad is that its waters offer a great variety as regards constituents and strength; in many instances it is desirable to combine them—as in anæmic cases—the Alexandrinen with the Rudolfsquelle, or, where the uric-acid diathesis is marked, the Kreutzbrunnen, etc. Certainly several cases of chronic nephritis that I have sent here have been greatly benefited.

THE BATHS.—The mud baths produce a decided elevation of temperature, and are highly stimulating; the pressure and friction caused by the mass of mineral mud (about six cubic feet are used for each bath), acting like a huge poultice, with their chemical and gaseous constituents, often produce resolution of inflammatory products. They are of use in neuroses proceeding from anæmia, especially in women suffering from sexual maladies; in paralyses where the nervous affection is caused by exudations; in rheumatic and arthritic paralysis; in rheumatism of the muscles and in gout; in local stases of the abdominal organs; in deficient menstruation; in abdominal enlargements, and in enlargements of the liver and spleen. The mud is also applied locally in the form of poultices, sometimes being mixed with one of the iron waters. The *gas baths* are highly stimulating, increasing the menstrual flow, accelerating the circulation in peripheric paralyses and cutaneous anæsthesia; they are especially useful in conditions of the genital organs characterized by debility, in fluor albus, amenorrhœa or passive metrorrhagia, and in diminished sexual power. The Marienquelle baths are employed to second the effects of Ferdinands and Kreutzbrunnen waters. The iron baths (Carolinen and Ambrosius) correspond somewhat in their effects with the gas baths.

Some comparison between the Marienbad and Carlsbad waters is of interest. The principal ingredient of the Sprudel of Carlsbad and of the Kreutz and Ferdinandsbrunnen is the sulphate of sodium. As the following analysis shows, the Marienbad waters contain twice as much of this salt as the Carlsbad, besides being stronger in all the other ingredients, the other and principal point of difference being that the Marienbad are more stimulating and are cold, while the Carlsbad are warm or hot, their temperature ranging from 108° to 164° F., the latter being the temperature of the Sprudel. Hufeland called Marienbad the "cold Carlsbad." They are suited to very much the same class of ailments, except that it may be stated in a general way that the hot waters of Carlsbad are probably more effectual in catarrh of the bile-duct and biliary concretions, and especially in diabetes mellitus.

	CONTAIN IN 16 OUNCES OF WATER	
	The Kreutzbrunnen.	The Sprudel.
	Grains.	Grains.
Sulphate of sodium	38·040	19·869
" " potassium	0·401	.....
Chloride of sodium	13·065	7·976
Carbonate of sodium	9·024	9·695
" " lithium	0·036	.....
" " lime	3·990	2·370
" " strontium	0·006	0·007
" " magnesium	3·332	1·369
" " iron	0·270	0·027
" " manganese	0·024	0·006
Phosphate of aluminium	0·038	0·002
" " lime	0·014	0·002
Silica	0·630	0·577
Extractive matter, bromine and fluorine combinations	0·056	0·024
Total	68·926	41·924
Free carbonic-acid gas in a hundred parts of water	105	26
Temperature	50° F.	164°F.

I have often been asked if the waters of Marienbad or Carlsbad can not be taken with equal advantage at home, in place of making a long and somewhat expensive journey. I have invariably answered "No." Where the Marienbad waters are taken, from three to five glasses are usually required daily, most of which should be taken before breakfast. Nor should they be swallowed at once; twenty minutes should be allowed to each glass, and exercise taken at the same time. All this is easy when hundreds are doing the same thing with a musical accompaniment by a splendid band, invigorating air, beautiful surroundings, and abundant leisure. Each person usually devotes an hour before breakfast and an hour before supper or dinner to drinking the waters. Again, when the treatment is to reduce adiposity, four or five hours' exercise daily should be taken. The diet, too, is strict—sweet, starchy, and fat food being mostly prohibited—fish, eggs, light red or white wine, tea and coffee without much sugar or milk, cooked fruit and vegetables, animal food, and fish and plain soups being allowed. It is impossible to have all the above circumstances and diet at home for three or four weeks, the average time required for treatment, although two of my patients have followed out the treatment here thoroughly and with advantage. Again, the waters, though exported, are more flat and less agreeable than when drunk at the springs, and, in addition, the carbonate of iron they contain is precipitated. The salts, which can be obtained here, prepared by the evaporation of the Ferdinandsbrunnen are, however, reliable.

An advantage of the springs of Bohemia is that there are in attendance, during the season, competent and thorough physicians. They are strict in the treatment of patients and careful in their diagnosis and in the selection of the waters to be used. At Marienbad there are about thirty physicians during the season, among whom I may mention Professors Ott and Kisch, of the University of Prague.

I present this paper not as an elaborate one upon the Marienbad waters, but as a rough sketch of them and the general characteristics of the watering-places of Bohemia. I am indebted to the work of Dr. Kisch * for much of the information contained in this article.

Marienbad is cooler than the other health resorts of Bohemia, and its pure and invigorating air, its tranquillity, the regularity of the life pursued, and the good hours kept (almost every one is in bed before ten), make it attractive and desirable for those needing the treatment and rest.

I should add that some precautions should be taken as regards securing accommodations; the season is from May 1st to October, and is at its height from the latter part of June to the middle of August. During the height of the season it is almost impossible to obtain rooms, unless they are ordered a considerable time in advance, though a *single* individual can always get quarters. Before and after the period mentioned rooms can always be had; the price of rooms is then considerably lower.

Finally, from these waters and baths *too much* must not be expected. Failures there will be, as from all modes of treatment. Again, women of moderate *embonpoint* only, in perfect health, had better let them alone, as a moderate excess of fat occurring in persons in good haleth can not always be reduced without some derangement of the system being produced. The waters and treatment prove sometimes severe, and, without care, are apt to produce gastric catarrh and gastralgia. It is of extreme importance to take them under the strict directions of the resident physicians.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

A Manual for the Practice of Surgery. By Thomas Bryant, F. R. C. S., Member of the Council and Court of Examiners of the Royal College of Surgeons, etc. With Seven Hundred and Twenty-seven Illustrations. Fourth Edition, thoroughly revised. Philadelphia: Henry C. Lea's Son & Co., 1885. Pp. xx–17 to 1039, inclusive.

Correspondence.

LETTER FROM WASHINGTON.

Washington, *January 12, 1885.*

Medical and Scientific Societies.—A Proposed National Bureau of Health.

The Medical Society of the District, at its last annual meeting, elected Dr. W. W. Johnston, president; Dr. C. H. A. Kleinschmidt, vice-president; and Dr. Thomas McArdle, secretary.

The Biological Society of Washington elected the following officers: President, Professor G. B. Goode; vice-presidents, Professor C. V. Riley, Professor L. F. Ward, Professor O. T. Mason, and Mr. W. H. Dale; secretaries, Mr. R. Rathbun and Dr. Frank Baker; treasurer, Mr. F. W. True; members of the council, Dr. J. H. Kidder, Mr. C. D. Walcott, Mr. Romeyn Hitchcock, Dr. George Vasey, and Mr. J. L. Wortman. The president announced the following committees for services during the ensuing year: On communications, Mr. F. W. True, Mr. R. Rathbun, and Mr. F. Baker; on publication, Mr. Rathburn, Mr. C. V. Riley, Mr. W. H. Dall, Dr. Elliott Coues, and Mr. R. Hitchcock; on lectures, Mr. O. T. Mason, Mr. L. F. Ward, Mr. Theodore Gill, Mr. William Birney, and Dr. J. H. Kidder.

The Public Health Committee of the House held a meeting last week, but took no action on the bill of the Health Conference, introduced by Mr. Beach, of New York. In the Senate, a new bill has been introduced by Senator Palmer, of Michigan, which, by its terms, will create a Bureau of Health in the Treasury Department. The chief of the new bureau is to be styled the Commissioner of Health, and is to receive a salary of $4,500 per annum. There are to be seven superintendents, and each superintendent is to have a district assigned him under the general direction of the commissioner. An "inspector of ventilation and plumbing" is also to be appointed, who shall examine all plans for public buildings with reference to their sanitary arrangements. There is also to be appointed a "public analyst," as chemist to the bureau. The bill provides that the commissioner, with the surgeon-generals of the army, navy, and marine-hospital service, shall frame a code of sanitary regulations for the army, navy, and merchant marine, and all schools under the jurisdiction of the United States.

The commissioner shall, with the president of the American Medical Association, prepare a code of regulations for the practice of medicine, surgery, and midwifery in places within the jurisdiction of the United States.

All goods designed for food or drink of man, for wearing apparel, or for furniture or decoration of habitations, so poisoned by adulterations as to be dangerous to human life or health, are declared to be contraband of commerce anywhere within the United States, and may be seized and destroyed. On the application of the commissioner, the President shall detail surgeons of the army and navy for the investigation of special diseases. During the invasion of epidemic diseases the commissioner may employ competent physicians to aid the superintendents, such physicians to receive $10 a day and expenses. A weekly bulletin, containing useful sanitary information, shall be distributed free to different parts of the country. A penalty of $100 to $1,000, or imprisonment from thirty days to one year, is provided for violations of this act or the regulations authorized by it. The sum of $400,000 is appropriated to carry the act into effect.

The bill is the most elaborate and practical of any yet introduced, but there is little probability of any health-bill passing at this session.

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* "Marienbad, seine Umgebung und Heilmittel," Marienbad, 1882.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
D. Appleton & Co.
Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, JANUARY 17, 1885.

MALARIAL SYMPTOMS FOLLOWING SURGICAL OPERATIONS.

M. Verneuil has already called attention to this subject, which is one that should be of special interest to New York surgeons, seeing that it is the fashion in this city to ascribe to "malaria" a number of obscure symptoms which can not be conveniently assigned to any other cause. Dr. Baruch has alluded to the fact that much of the "malarial disease" of New York is wrongly so called, since the most striking phenomenon of this affection, its periodicity, is frequently absent. But, while he insists upon the desirability of making a positive diagnosis to that effect only in cases of frank intermittent fever, perhaps he does not lay enough stress upon the peculiar masked forms of the disease which undoubtedly abound among us.

It is a common experience with our surgeons to meet with sudden and unaccountable elevations of temperature after operations, elevations which can not be attributed to the condition of the wound, or to the occurrence of inflammatory complications. This phenomenon is apt to cause no little uneasiness, especially in peritoneal surgery, in which a sudden rise of the index at an early period is well known to presage the invasion of peritonitis. But this occurrence is not confined to major operations, since trifling manipulations of the uterus, such as trachelorrhaphy and curetting, may be followed by fever, which is equally alarming, being suggestive of parametric inflammation. Now, a peculiarity of this rise of temperature (which is often accompanied by a rapid pulse and a good deal of constitutional disturbance) is that it observes a sort of periodicity. In the morning the thermometer will register as usual in uncomplicated surgical cases, while toward evening, on visiting his patient, the attendant will be surprised, and often alarmed, to find a reading of 103° or 104° F. The wound is examined, the patient is interrogated, but, aside from a confession of restlessness and nervousness, nothing can be elicited to explain the fever. There may or may not have been a preceding chill; generally it will not have been recognized. As the patient convalesces, these mysterious symptoms will disappear. With the administration of full doses of quinine, according to the ordinary rules observed in using this drug for the cure of intermittent fever, the attacks will generally be cut short in two or three days. In most of the cases which have fallen under our observation, either a history of malarial exposure could be obtained, or subsequent observation of the patient after complete recovery from the operation showed that the disease was present.

The interesting point in this question is, What peculiar condition of the system is induced by a surgical operation whereby latent, or masked, malarial disease becomes actively developed? This we do not pretend to answer. It is akin to the sudden appearance of delirium tremens after injuries. The practical interest of the subject lies in the inference that the surgeon should not allow a rise of temperature *per se* to disquiet him—indeed this is only another phase of the question which Nothnagel has lately brought into prominence.

THE REPORT OF THE SURGEON-GENERAL OF THE NAVY.

This pamphlet, although not quite so attractive in its appearance as a document of like character presented by the Surgeon-General of the army, on which we lately commented, represents a considerable amount of work, and work of an excellent quality. We learn that the number of deaths in the service during the year was forty-five, of which twelve were due to zymotic diseases, while fourteen are ascribed to "violent diseases and deaths." Some changes are reported in the arrangement of the naval hospitals and quarantine stations. The Museum of Hygiene is said to be in a flourishing condition; the collection of specimens has been increased to 650, and the library now contains 7,049 bound volumes and 131 periodicals. The laboratory attached to the Museum is in thorough working order, as may be inferred from the description of its apparatus. Mention is made of the increased interest in sanitary science which has been aroused among the medical officers of the navy during the past few years, and of the systematic manner in which reports are forwarded from distant stations.

The report closes with a paragraph upon practical instruction for naval surgeons, which will be read with special interest by all who are careful observers of the schools for practitioners that have been established during the past few years. The Surgeon-General recommends that tickets be furnished to officers stationed at the "great medical centers of New York, Boston, and Philadelphia," so that they may attend the courses for practitioners given in those cities. This testimony in favor of such schools, coming from such a high source, is very gratifying.

THE TRANSACTIONS OF THE LONDON MEDICAL SOCIETIES.

The "Medical Times and Gazette" reviews these volumes at length, so that, while we have not yet had an opportunity of perusing the transactions in the original, we gain a very fair idea of their scope. We confess to a certain feeling of mortification as we compare the actual work (not to speak of the printed reports) of some of our New York societies. Why is it that they do not do us more credit? Is there a lack of material, of brains, or of enthusiasm? The first two elements are certainly not wanting, so that we are compelled to fall back upon the latter explanation.

It is certainly *apropos*, at the threshold of a new year, to ask ourselves how many actual additions to the scientific knowledge of the world are made by our local societies, and how much of that knowledge is hidden away in neglected records, or strewn piecemeal throughout the pages of journals.

When we compare the transactions of the London Pathological Society with the records of a similar body in New York, we are furnished with food for reflection. We do not wish to be understood as criticising the work of any one society, but simply as calling attention to the fact that the records of our medical bodies should be preserved in a permanent form, and, moreover, in an *attractive* form. A small outlay in this direction would be more than repaid by the increased estimation in which they would be held both at home and abroad.

MINOR PARAGRAPHS.

OVER-PRESSURE IN SCHOOLS.

This subject is one which has greatly agitated the medical press in England during the past year, and there are indications that the epidemic of criticism may become general in our own country, if it is not nipped in the bud. Undoubtedly abuses of this nature do exist, but let us not be so shallow as to take up the cry simply because it has become fashionable elsewhere. We have long remarked the presence of a spirit of so-called Anglomania in some of our journals, which detracts considerably from their own independence. Whenever it can be proved that a wholesale system of mental crowding does exist in our schools, let us inveigh against it, but not until then.

THE VALUE OF TRAINED NURSES.

A recent incident at the New York Hospital illustrates the value of the trained nurse. A patient, whose innominate artery had been tied by Dr. Bull, had hæmorrhage from the proximal end of the artery on the thirtieth day. The first gush of blood was tremendous. The nurse, Mrs. Schaefer, promptly tore off the dressings, and, thrusting one finger into the wound, which was quite narrow, arrested the bleeding instantly. Not a drop of blood was lost after this until two hours later, at which time the nurse's finger was replaced by a firm tampon of iodoform gauze, when a trifling hæmorrhage occurred at the moment the change was made. The patient died on the thirty-second day.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 13, 1885:

DISEASES.	Week ending Jan. 6.		Week ending Jan. 13.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	0	20	1
Typhoid Fever	13	3	5	3
Scarlet Fever	58	15	86	17
Cerebro-spinal meningitis	4	3	9	9
Measles	157	19	152	39
Diphtheria	59	28	58	28

The New York Pathological Society elected the following-named gentlemen to office at the annual meeting, held on Wednesday, the 14th inst.: Dr. John A. Wyeth, president; Dr. G. L. Peabody, vice-president; Dr. W. M. Carpenter, secretary; Dr. J. H. Hinton, treasurer; Dr. J. C. Peters, Dr. V. P. Gibney, Dr. F. R. S. Drake, Dr. J. H. Hinton, and Dr. J. H. Ripley, committee on admissions; Dr. J. C. Peters (editor), Dr. F. Ferguson (assistant editor), Dr. W. M. Carpenter, Dr. J. H. Hinton, Dr. Beverley Robinson, and Dr. E. C. Wendt, committee on publication.

The Late Professor Darling.—At a special meeting of the faculty of the medical department of the University of Vermont, held January 7th, the following resolutions were adopted:

Since it has been the will of Almighty God to remove from his earthly labors our esteemed friend and colleague, William Darling, A. M., M. D., LL. D., F. R. C. S.,

Resolved, That in his long life of devotion to the science of medicine we recognize the ability, energy, and untiring zeal which placed him among the first in the country as a scholar.

That by his intellectual strength and constant research he carried to the lecture-room those qualifications which enabled him to communicate information, and made him the ideal teacher.

That by his love of the right and his kindness to those who were in need, as well as by his abhorrence of untruth and hypocrisy, he is remembered by us as one possessing the elements of true manhood.

The University of Vermont.—Dr. Ambrose L. Ranney, professor of applied anatomy in the New York Post-Graduate Medical School and Hospital, has been appointed to the chair of anatomy in the medical department of the University of Vermont, made vacant by the death of Professor Darling.

The Marion County, Indiana, Academy of Medicine, of Indianapolis, has elected the following officers: Dr. Thomas N. Bryan, president; Dr. Alembert W. Brayton, vice-president; Dr. F. E. Fere, secretary; Dr. Joseph O. Stillson, assistant secretary; Dr. J. E. Rowe, treasurer. At the meeting, which was held on the 6th inst., Dr. David C. Bryan read a paper on "Stricture of the Urethra."

The New York Hospital School for Nurses.—We learn that Mrs. Alida M. D. Luse, a graduate of this school, is about to organize a school for nurses in connection with the Maine General Hospital, in Portland.

A British Gynæcological Society has lately been organized, and the following officers have been chosen: Dr. Robert Barnes, honorary president; Dr. Alfred Meadows, president; Dr. Aveling, Dr. Bantock, Dr. Routh, Dr. Protheroe Smith, Mr. Lawson Tait, and Professor A. R. Simpson, vice-presidents; Dr. Sinclair Coghill, Dr. Grigg, Mr. Nunn, Mr. Noble Smith, Mr. H. A. Reeves, Dr. Walter Roberts, Dr. Lloyd Roberts, Dr. Purefoy, Mr. Paul Swain, Dr. Macwhirter Dunbar, Dr. A. Sheen, Dr. T. More Madden, Dr. John Wallace, and Dr. John Thorburn, members of the council. The first meeting will be held in April. It is understood that this organization is a sort of protest against the course pursued by many of the London hospitals toward their "physician-accoucheurs."

The Death of Dr. Lathrop A. Willis, of Brooklyn, E. D., took place on Friday, the 2d inst., in his sixty-first year. He was a graduate of the Albany Medical College, of the class of 1849, and a member of the Medical Society of the County of Kings.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 4, 1885, to January 10, 1885:*

McKee, J. C., Major and Surgeon. Ordinary leave of absence still further extended four months, on surgeon's certificate of disability. S. O. 6, A. G. O., January 8, 1885.

Shannon, William C., Captain and Assistant Surgeon. Relieved from duty at Fort Bridger, Wyoming, and assigned as Attending Surgeon at Headquarters Department of the Platte. S. O. 2, Department of the Platte, January 5, 1885.

Robinson, S. Q., Captain and Assistant Surgeon. Assigned to temporary duty at Portland, Oregon, from December 17, 1884. S. O. 206, Department of the Columbia, December 22, 1884.

Appel, A. H., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect on or about January

7, 1885 (Madison Barracks, N. Y.). S. O. 268, Department of the East, December 31, 1884.

Wales, P. G., First Lieutenant and Assistant Surgeon. Relieved from duty at Vancouver Barracks, Washington Territory, and ordered to return to his proper station, Fort Cœur d'Alène, Idaho. S. O. 204, Department of the Columbia, December 19, 1884.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the week ending January 10, 1885:*

Ross, J. W., Surgeon. Detached from the Monongahela, for treatment at the Naval Hospital, New York.

Wells, Howard, Passed Assistant Surgeon. Detached from the Naval Hospital, Philadelphia, Pa., to the Monongahela.

Society Meetings for the Coming Week:

Monday, *January 19th:* New York County Medical Association; New York Academy of Sciences (Section in Geology and Mineralogy); Medico-Chirurgical Society of German Physicians, New York; Roman Medical Society, New York (private); Hartford, Conn., City Medical Association.

Tuesday, *January 20th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings (annual—Brooklyn), Franklin (annual), and Otsego (semi-annual—Cooperstown), N. Y.; Ogdensburg, N. Y., Medical Association; Connecticut River Valley Medical Association (Bellows Falls, Vt.).

Wednesday, *January 21st:* Northwestern Medical and Surgical Society of New York (private); New York Medico-Legal Society; New Jersey Academy of Medicine (Newark).

Thursday, *January 22d:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; Roxbury, Mass., Society for Medical Improvement (private).

Friday, *January 23d:* New York Clinical Society (private); Yorkville Medical Association, New York (private); New York Society of German Physicians (private).

Saturday, *January 24th:* New York Medical and Surgical Society (annual—private).

Letters to the Editor.

THE EDUCATIONAL ADVANTAGES OF BERLIN.

Berlin, *December 14, 1884.*

To the Editor of the New York Medical Journal:

Sir: In your Students' Number you gave a very able description of the advantages for study which Americans get abroad. In that account your contributor dwelt at length on the medical opportunities at Vienna, passing over Berlin very rapidly. As I have been abroad these five years, studying medicine in Germany at various universities, and staying here for the last two years and a half, I have thought that it might be of benefit to Americans to know what advantages they can get here at this university, the youngest of all, but the leading institution of its kind in Germany. The impression which my stay here has left upon my mind is, that Berlin is, above all, the university for *theoretical* training. In Virchow the student finds his ideal. Let him attend his lectures on pathology and his demonstrative courses regularly; they are unequaled. The training in this branch of study, under its greatest master, should be the first desideratum for the American student coming abroad to finish his studies, for it forms a strong foundation to build upon as he goes along. Berlin is also a very good place for the study of obstetrics and gynæcology. Americans are always welcome at Professor Schröder's new University Hospital for Women; on their appearance, he gives them a cordial invitation to his clinics, as well as to his operations. Besides, there are good opportunities for "touching" and attending deliveries at Schröder's clinic, as well as that of Professor Gusserow, at the Charité, whose assistant, Wyder, gives fine operative courses. Let the student who takes interest in gynæcology and obstetrics come to Berlin by all means. I know American and other foreign gynæcologists who, after studying here a while, have made the round of the other universities, Paris and Vienna included. They invariably return, saying that Berlin is the school for gynæcology and obstetrics.

The other departments are equally good. The names of Frerichs and Leyden, for practice, are a guarantee of the quality of their lectures and clinics, not to forget Senator and Meyer, by whom the student can profit a great deal. The teaching in pædiatrics is particularly excellent. Professor Henoch's clinic at the Charité is one of the most popular, and that of Baginsky is resorted to by young physicians from all parts of the world. I would especially recommend the courses of Dr. Baginsky to those who have not much time to waste; they are noted for their clearness and preciseness. The surgical clinic of v. Bergmann, the successor of Langenbeck, is one of the favorite resorts of the students. Von Bergmann is a brilliant operator and an excellent teacher. Bardeleben's clinic at the Charité, as well as his operative courses, and those of Professor Küster at the Augusta Hospital, are well worthy of recommendation. The chances for anatomical study have of late become very good, as Waldeyer takes great pains with his students. Experimental work in physiology may be pursued with advantage at Professor Munk's laboratory in the Veterinary School (in the vicinity of the anatomical buildings), not to forget DuBois-Reymond's lectures, the most brilliant of their kind in Germany. Another branch is well represented at Berlin; *i. e.*, diseases of the nervous system. Westphal's clinics are very thorough; every case is analyzed at great length, with wonderful precision and minuteness. The counterpart to his clinic is Professor Mendel's, where one sees a great many cases, and where the plentiful material is put to good use. Let no American miss Mendel. For diseases of the eye, Berlin gives all the opportunities imaginable. Schweigger, Hirschberg, and Schöler are the worthy successors of A. von Graefe.

From this short account, giving only the most prominent features, it may be seen that the American who goes abroad to finish his studies ought to go to Berlin for a time. It combines theoretical and practical training; for the former, Berlin has always been celebrated, and, as to the latter, the *Privat-Docenten*, able and painstaking young men, give eminently practical courses in all the branches. These are principally reserved for the vacation months, September and October, March and April. During the sessions they combine them with systematic lectures. Seven or eight months spent at Berlin will be of the greatest benefit to the American physician and student.

Dr. S.

THE TREATMENT OF DIPHTHERIA.

Cranford, N. J., *December 31, 1884.*

To the Editor of the New York Medical Journal:

Sir: I have found the following treatment of diphtheria successful in sixty successive cases, extending over a period of four years. For an adult, I begin with the bisulphate of quinine, fourteen grains, and follow it up with eight grains every three hours until cinchonism is *very evident.* Subsequently I maintain *slight* cinchonism by three to four grains every three hours, for three or four days, or until the exudation disappears. Afterward I give eight to twelve grains a day, for about a week. I find that, in true diphtheria, it requires from two to three times as much bisulphate to induce cinchonism as in the malarial fevers or in health. In diphtheria, I have also learned to regard the sulphate of quinine as almost if not entirely inert.

For the local treatment, anti-bacterial and antiseptic, I use the following auxiliaries:

℞ Sulphur	half an ounce;
Brandy,	
Glycerin,	
Water, each	an ounce and a half.

Mix. A tablespoonful to be taken every three hours, just after the quinine. Also alternate with the following:

℞ Chlorate of potassium	three drachms;
Boiling water	three ounces;
Tincture of aconite-root,	
Tincture of camphor, each	thirty drops;
Tincture of chloride of iron	a fluidrachm and a half;
Glycerin	a fluidounce and a half;
Oil of cassia	three drops.

Mix. A tablespoonful to be taken *exactly* every three hours, an hour and a half after the sulphur mixture. (The teeth should afterward be rinsed with a solution of bicarbonate of sodium.)

These solutions I give, in the doses mentioned, about two or three days, until the exudation begins to subside, and then in half-doses at the same intervals. I think it *very* important that the solutions be given not farther apart than an hour and a half. I write down the hours for them to be given, and have the patient waked up at the hours. I give smaller doses to children, according to the age. For a child eight or ten years old, I begin with eight grains of bisulphate of quinine, and then give four until cinchonism is produced. To a child two years old I give four grains and then two, to cinchonism, as nearly as can be determined. Of the solutions, I give a child of eight years a dessertspoonful, diminished to a teaspoonful; to one of two years, a teaspoonful, diminished to half a teaspoonful; to one of a year, two thirds of a teaspoonful, reduced to one third. When the glands are swollen, I apply externally from two to four coats of tincture of iodine—as many as may be required to produce smarting—and I seldom have to repeat the application after it has once *smarted well*. I use no swab for the throat, and no hot applications for the neck. I give only warm or hot drinks—coffee and cream or soups—these acting as hot fomentations to subdue local inflammation.

With this treatment I have been so uniformly and markedly successful that a number of physicians have asked me to publish it. Respectfully yours,

J. K. MacConnell.

Proceedings of Societies.

CHICAGO MEDICAL SOCIETY.

Meeting of January 5, 1885.

The President, Dr. D. A. K. Steele, in the chair.

The Late Dr. C. W. Chaffee.—The Memorial Committee reported a preamble and resolutions eulogistic of the late Dr. Chaffee.

Diphtheria; the Germ Theory and the Alcohol Treatment.—Dr. G. H. Chapman read a paper on this subject in which he said that there was perhaps no known disease which had been so constantly and thoroughly discussed, and with regard to which we were still so much in the dark concerning trustworthy remedies, as diphtheria. Probably he would not be going astray if he stated that every physician was ready to adopt any method of treatment which offered a reasonable promise. Was the disease local in character, or did it involve the entire system? Both theories had their advocates. Perhaps the most recent and best-founded theory was that given by Oertel, and confirmed by others, that the disease was first local and afterward developed into a general disease, and, moreover, that the infection was kept up by the local disease. The micrococci first attached themselves to the laryngeal mucous membrane, where they multiplied and produced inflammation of the adjacent tissues, and the membrane became filled with micrococci, which forced their way between the epithelial cells. The cells began to die and ulceration took place. The mouths of the lymphatics opened and the micrococci passed in. Early in the disease no micrococci were found in the blood, but, after the constitutional symptoms had become severe, masses of them would be found in the vessels, and the germ invaded the white blood corpuscles, which after a time would be found filled with micrococci. They would be found in the kidneys and in the capillaries, forcing their way between the muscular fibers of the heart and throughout the body, leading to destruction of tissue. Wood and Formad, of Philadelphia, had found that the attempt to inoculate animals with the poison derived from an ordinary case of diphtheria, as it appeared in that city, failed to produce the disease, but, when it was taken from subjects of a malignant type of the disease, they invariably succeeded in infecting the lower animals. They also produced diphtheria with micrococci cultivated in soups, even to the fourth or fifth generation.

They further found in ordinary saliva a micrococcus which could not be distinguished from that found in the membrane from the most malignant diphtheria, except that with those they could not produce the disease; and also that the action of the poison was in direct proportion to the virulence of the epidemic. The former writer thought that diphtheria was produced by micrococci that were present in everybody's mouth. These were some of the conclusions of those who had spent years in the investigation of this subject, with abundance of material at their disposal.

Granting that the deductions of these investigators were correct, there must be conditions for the rapid reproduction of the germs which were not yet understood; and might it not be that they found in the degenerated or septic condition of the fluids and tissues a good field for growth and development in an active form, and still were not the primary cause of diphtheria? But, whether the disease was purely local or general in its origin, whether micrococci were or were not the primary cause of its development, the stubborn fact remained that, in nine cases out of ten, when the physician was first summoned, he found abundant evidence of systemic disturbance, varying in intensity from simple circulatory excitement to the most profound prostration, like that of septicæmia.

A severe form of this disease was manifested in South Chicago during the autumn and winter of 1881–'82. In the first six weeks of the epidemic the writer treated seven cases, with two deaths and one protracted recovery out of three malignant cases. The treatment consisted, *externally*, in the free use of camphorated oil with turpentine, and applying to the membrane every four or six hours, with a camel's-hair brush, a mixture of a drachm of carbolic acid, three fluidrachms of liquor ferri subsulphatis, and half a fluidounce of glycerin. The throat was gargled with a saturated aqueous solution of chlorate of potassium. *Internally*, tincture of chloride of iron and quinine were given, in doses suitable to the age of the patient, giving to a child, eight years of age, two grains of quinine and six drops of tincture of chloride of iron every three hours. In one of the cases that seemed to be malignant, but ended in recovery, dry sulphur was used after the fourth day, blown freely into the throat and nasal cavities after cleansing the parts with the chlorate-of-potassium solution. There had been, up to this time, in all, about twenty cases in the immediate vicinity, with twelve deaths. Other physicians had had no better success in combating the disease. At this time the writer's attention was called to the free use of alcohol in this disease, by various publications, from which it appeared that alcohol was one of the best agents for destroying the micrococci or rendering them inert; and he determined to give it a fair trial, using it diluted, with chlorate of potassium as a gargle, especially using the latter remedy before the patient took either medicine, food, or drink. Dry sulphur was also used in the throat and nasal cavities, with the internal use of whisky-sling or milk-punch, as hot and strong as could be borne, and only to be limited by the amount which could be tolerated by the patient without producing intoxication, along with other agents, such as diuretics, antifebrile remedies, etc., as each case seemed to require.

As a result of this trial, his succeeding twenty-eight cases were carried to a successful termination with one exception, and in none of them was a brush or probang used.

The alcohol in every case could be used very strong; it would almost invariably cause the membrane to shrivel up like burning leather, and within thirty-six to forty hours every trace of membrane disappeared. Tincture of veratrum viride and deodorized tincture of opium were given in some cases for fever during the congestive stage only.

During the past two years the author had relied on the liquor-ferri-subsulphatis-and-carbolic-acid mixture applied to the throat with a camel's-hair brush twice or thrice a day, or still more frequently. He pursued this plan instead of blowing in sulphur with a bellows or through a goose-quill. The sheet-anchor, however, was alcohol in every stage of the disease, and, from his experience, he was led to think we could secure much better results with it than by the harsher methods of treatment.

[Here the author gave brief accounts of a number of illustrative cases.]

As before stated, only one patient was lost of the twenty-eight treated with alcohol, a girl eleven years of age, of nervous temperament, who, six months previously, had had a severe attack of typhoid fever, from which she had not yet fully recovered. Consequently, when she was attacked by diphtheria of a severe naso-pharyngeal character, it was difficult to maintain her strength, and she died on the eighteenth day, from paralysis of the heart.

In July, 1882, the writer attended three cases of croupous diphtheria. The first two do not require any special mention. The third case of this series was under the care of another physician for two days before he was called. It seemed impossible for life to be prolonged an hour. However, a teaspoonful of a mixture of a grain of calomel, five minims of tincture of aconite-root, and four ounces of water was ordered to be given every hour. Milk-punch and whisky-sling also to be given frequently. Instructions were given that, if the child lived until evening, he should be sent for. The child lived, and the treatment was continued. Upon visiting the little patient the following morning, he was greatly surprised at seeing the child running about the room dragging a broom and in high glee. It would be seen that great relief followed in this case within twelve hours. Doubtless the calomel had had much to do toward bringing this about.

Dr. G. C. Paoli thought the author was too prone to follow out routine treatment in diphtheria, whereas no such form could be laid down in this disease. Why? In malignant cases the patient might live only two, three, or at most five days, and this was not the fault of the physician. However, alcohol was no new remedy in these cases. It had been used for years, mostly, though, in the form of wine. Alcohol might be given in these cases to destroy fungi or bacilli, on the same theory that it was given as an antidote for snake-poison. But the question arose, Would alcohol save patients where there was a fibrinous exudation upon the tonsils, pharynx, and other parts; where it was of an ashy-gray appearance; where the maxillary and cervical glands were involved; where there was a dusky hue of the face, with cyanotic lips, and feeble heart and pulse, fœtid breath, hyperæmia of the brain, etc.? He would hesitate, on general principles, about giving the remedy. Instead, the first thing that should be done was to use antiseptics, such as oil of eucalyptus, which would destroy the bacilli. For young children, he would use it with an atomizer, for they could not gargle. Where there was ulceration of the naso-pharyngeal space, hæmorrhage might set in, and nothing would check it. Internally we should give tincture of iodine, in water, for a child five years of age, four drops every hour; and apply any of the well-known antiseptics with a probe or brush to the throat. It was of no use to give them quinine and tincture of iron, for these remedies they could not take, and, besides, they interfered with the action of the kidneys and liver.

Dr. R. Tilley desired to add his testimony to the special value of tincture of iodine in these cases, although no one remedy could be used in all cases. He also thought corrosive sublimate was beneficial, and he placed great reliance upon it. But he preferred the use of hot baths in the early stage of this disease as facilitating profuse perspiration instead of using veratrum viride. He was satisfied that bacteria were a causative agent of this disease.

Dr. J. J. M. Angear said that the microscopists had settled it that micro-organisms or microbes were a cause of diphtheria. Alcohol, as was well-known, destroyed vegetable growths. A fifteen-per-cent. dilution would prostrate or paralyze them, and, if its use was continued, would kill them. He therefore thought it a good local application. But these germs flourished best in a high temperature. We could not get alcohol as strong as a fifteen-per-cent. dilution to circulate in the blood. Therefore, how did it kill them when the blood contained them? Then, too, why administer alcohol and veratrum? Did not these remedies antagonize each other? There was harmony between the germ theory and the local use of alcohol. But he should think cold applications were preferable to hot drinks or to hot baths, for the reason that germs flourished better under a high temperature.

Dr. A. Leigh had found, in treating more than a hundred cases during the past four years, that, of all agents *per se*, hot or cold, there was none better than a concentrated or dilute preparation of the perchloride of iron. But in really malignant cases no treatment was of any avail. Alcohol, hot or cold, was a good cardiac stimulant, but quinine would do better work. Tincture of iron would produce contraction or hardening and shriveling of the membrane. There was no doubt that micrococci were present in the throat in this disease. Therefore, if the cases were seen early, and the iron was applied, benefit would be derived, except where the case was profoundly malignant. Tincture of aconite was superior to veratrum to bring about free diaphoresis.

Dr. H. J. Reynolds had come to the conclusion that there were no remedies that had a specific effect on diphtheria. The most that could be done was to rely upon supporting measures to help the patient along until the disease ran out. If the membrane entered the larynx, he would advise inhalation of steam. He thought no benefit would be derived from alcohol or veratrum. When the disease was malignant at the onset, no treatment was beneficial.

Dr. A. Goldspoon had treated a hundred cases of diphtheria during the last two years. He had seen great constitutional disturbance present when the local signs were quite insignificant, and cited a case of this kind occurring to a little girl that died in ten hours from the time she was attacked. The system was so depressed that she died of heart failure. In such cases it would be reprehensible to administer aconite or veratrum. To reduce the temperature, he relied upon quinine. Alcohol could not be given sufficiently concentrated to act through the circulation as a germicide, although it might do good locally.

Dr. Paoli said that when diphtheria appeared in countries and at a season when the temperature was very low, it was equally destructive. Alcohol might prove beneficial in some cases that were peculiarly asthenic.

The President recited an epitome of Morrell Mackenzie's views upon the pathology and treatment of diphtheria.

Dr. W. H. Wilson thought that we could not give sufficient whisky to a child having diphtheria to intoxicate it. Recently he had treated six cases of the disease in children, five of whom recovered, and to these he gave large quantities of alcohol. In the other case, the parents (on moral grounds) would not permit him to give the child whisky, and he was confident that, had he been permitted to do so, this child also would have recovered.

Dr. Chapman conceded the impossibility of producing intoxication in a patient having diphtheria. He maintained that by treating cases in this way paralyses were made less liable to follow. He was sure it also quieted the cerebral symptoms, such as delirium, and did not increase hyperæmia of the brain. Regarding the administration of veratrum and alcohol alternately, he did this during the first or congestive stage, or until perspiration was well established. We should begin the use of alcohol as early as we were sure of our diagnosis. By so doing, the fungi were destroyed and we prevented their entering the blood-vessels. If a few did enter the circulation, it was not so bad as if they passed in in swarms.

(*To be concluded.*)

NEW YORK SURGICAL SOCIETY.

Meeting of December 23, 1884.

The President, Dr. Robert F. Weir, in the chair.

Excision of the Condyle and Neck of the Inferior Maxilla for Ankylosis.—A patient showing the result of this operation was presented by Dr. W. T. Bull. A boy of fourteen had been perfectly well until four years ago, when he had an attack of otitis media of the right side, lasting about six months. During this time it was first noticed that he could not fully open his mouth, and this difficulty increased until about three years ago, at which time he began treatment, various apparatuses being used to forcibly open the mouth, but with only temporary improvement. Twice the adhesions had been ruptured under ether, and stretching by means of gags and plugs kept up for several weeks. On ceasing treatment the stiffness increased. The treatment was very painful. On admission to the New York Hospital, October 22, 1884, the boy was well nourished and robust in appearance. The jaws could be separated only so far as to show an interval of one fourth of an inch between the middle incisors. The left temporo-maxillary articulation appeared normal; the right was the seat of thickening and induration of the tissues overlying it, forming a swelling, of the size of an almond, which was not tender. The operation was performed October 23, 1884. An incision an inch and a half long was made just below and parallel with the right zygomatic arch. A second, vertical incision, three fourths of an inch long, was made downward from the first at its posterior third. These were carried down until the condyle and eminentia articularis were exposed. The condyle was thickened and the joint ossified. At least the only indication of its existence was a thin layer of cartilage, one fourth of an inch long. The periosteum was pushed back, and the condyle and neck were removed with chisel, gouge, and *rongeur* forceps. This was a tedious procedure, owing to the depth and narrowness of the wound. The jaw was then forcibly depressed with a gag, rupturing some adhesions in the soft parts, and its motions were perfect. The wound was irrigated with a 1–1,000 solution of bichloride of mercury, and closed with catgut sutures, save at the lower limit, where a small bone drain was inserted. A temporary dressing of bichloride gauze was firmly applied.

October 24th.—Temperature 99° F. A dressing of iodoform gauze next the wound; over this peat and cotton were applied. P. M., temperature 99·8°.

29th.—Pulse and temperature normal since last note. Dressing removed. Union complete save at site of tube, where a small ulcer remains. Tube had been almost wholly absorbed. Patient has no pain, and opens his mouth freely, eating regular ward diet.

November 5th.—An ulcer of the size of a split pea remains. Patient opens his jaws so that the middle incisors are an inch and one sixteenth apart. No pain.

December 23d.—There is the same freedom of motion before noted. The cicatrix is represented by a depression, vertical in direction, one half an inch in length.

Compound Fracture of the Innominate Bone, opening the Hip Joint; Recovery with Perfect Use of the Limb.—Dr. Bull also presented a patient with this history: Three years ago this man, a laborer, thirty years of age, was admitted to the Chambers Street Hospital half an hour after having fallen through a hatchway into the hold of a ship, a distance of twenty feet. He struck with his right side against a pair of ice-tongs, the points of which made a wound below and behind the anterior-superior spine of the ilium. The finger, introduced into this, found the muscles lacerated, the bone behind and below the anterior-superior spine comminuted, and a fissure extending, it was thought, into the acetabulum. The capsule of the hip was torn close to the acetabulum, and the cartilaginous head of the femur could be felt. There was profound shock. A few hours later the wound was enlarged, and several loose pieces of bone were removed. They were all fragments of the outer surface of the ilium. The largest was three inches long by an inch and a quarter broad. The wound was thoroughly irrigated with a five-per-cent. solution of carbolic acid, two large drainage-tubes were inserted in the wound, which was left open, and two other tubes passed through counter-openings behind the trochanter and near the tuberosity of the ischium, one of the tubes leading to the site of the opening in the capsule. Compresses wet with a two-and-a-half-per-cent. solution of carbolic acid were put over the hip, a weight-and-pulley extension was applied, the tubes were washed through four times a day, and appropriate general treatment was ordered.

From the third to the seventh day there was high traumatic fever, temperature 102·5° at night, with delirium, diarrhœa, and prostration. The irrigations were made every two or three hours, and the discharge was abundant, but not decomposed. After this, improvement was slow, but steady, and without other complications than the formation of one or two pockets, which gave rise to fever temporarily. The extension was kept up for four weeks. The tubes were shortened from time to time, and the injections made less frequently. The man walked on crutches at the end of the third month, with considerable stiffness at the hip, and the wound was reduced to one sinus, through which some fragments of bone came away subsequently. At the end of the fourth month he had quite regained his strength, and could walk with but little stiffness. He resumed work after the end of six months, but the sinus did not close till several weeks later. He had had no further trouble from the injury, and thought the functions of the right leg perfect. It was now three years since the injury, and the speaker found the limb half an inch smaller in circumference than the left at the upper part of the thigh, and a quarter of an inch smaller at the lower third. The motions of the joint were free except that of external rotation, but the hindrance was not sufficient to attract the patient's attention. There was flattening of the soft parts between the anterior spine and the trochanter, and the brim of the pelvis four or five inches behind the anterior-superior spine was irregular in outline. The cicatrices were soft.

Excision of the Superior Maxilla.—Dr. George A. Peters read a paper on this subject. [See page 57.]

Dr. Henry B. Sands said that the main points of the paper were scarcely debatable, as the society would doubtless indorse most of the opinions expressed by Dr. Peters. But, if he had not misunderstood the author of the paper, he had recommended the administration of ether by the rectum as a safe and useful method. Dr. Sands had had no experience in this mode of producing anæsthesia, which had not impressed him favorably, but, as many of the members of the society had had such experience, he would like to inquire whether their verdict would sustain the position taken by Dr. Peters. Judging from what he had learned concerning etherization by the rectum, Dr. Sands had concluded that it was far from being a desirable procedure, as it was attended with risks which were difficult to avoid, and almost impossible to estimate. He had had the privilege of witnessing the operation described in the paper, and, being only a spectator, he was perhaps able to observe the effect of the anæsthetic better than those who were engaged in performing the operation. It had seemed to him that the ether was but little under the control of the administrator, and that, in spite of the precautions used, a very large accumulation took place in the intestine, with the effect of producing cyanosis and very deep anæsthesia for a period which made a bystander feel anxious with regard to the result. He would hesitate, from what he had observed in this case, to adopt this method as a substitute for inhalation in the ordinary way, even in operations of the kind mentioned in the paper. His own practice, when employing anæsthetics in the operation for excision of the superior maxilla, had usually been to avoid inducing profound insensibility in the later steps of the operation. By adopting this precaution, by operating without undue delay, and by causing the head to be inclined forward whenever hæmorrhage was copious, he had always been able to prevent the entry of blood into the air-passages without the necessity of plugging the trachea. Patients treated in this manner sometimes showed signs of pain, especially when the larger nerves were divided, but afterward they had no recollection of having suffered during the operation. Dr. Sands believed that, in all surgical procedures accompanied with the risk of escape of blood into the larynx, deep anæsthesia should be avoided. Regarding the general administration of ether by the rectum as a substitute for the usual method by inhalation, he would like to know whether the advantages were not outweighed by the risks.

Dr. Bull had had considerable experience with etherization by the rectum, the results of which he had already published. He had administered ether in this manner in seventeen cases, and had reached the conclusion that the method should not be practiced, because in a large proportion of those cases the reaction which followed on the part of the intestinal tract was very considerable. In some cases there was diarrhœa with bloody passages, and in others ordinary serous diarrhœa, and the diarrhœal discharges seemed to occur without very much reference to the apparent good general condition of the patient. In one case the diarrhœa continued for two or three days after the operation. Judging from his own experience, he was unable to call etherization by the rectum a safe procedure, and this conclusion had been confirmed by the occurrence of deaths from ether administered in this way in different hospitals, and where there was nothing in the nature of the operation which would have imperiled the life of the patient. In the operation in question he would prefer to trust to the method mentioned by Dr. Sands rather than to resort to etherization by the rectum.

Dr. Lewis A. Stimson remarked that he had already presented to the society an instrument devised for continuing etherization during the operation described by the author of the paper. The instrument consisted of a large tube, of about the size of a No. 40 urethral catheter, surrounded at one end by a large sponge with a rubber coating, which, when passed into the pharynx, prevented the flow of blood in that direction, while the patient breathed through the tube. He had successfully used this apparatus in two cases.

Dr. Peters said his feeling concerning etherization by the rectum was such as had been stated by Dr. Sands, unless the method could be surrounded by safeguards in the administration which would deprive it somewhat of its dangerous element. The results in the two operations described in the paper, performed upon a single patient, were eminently satisfactory. The patient was profoundly anæsthetized, and the anæsthesia continued for some time, but he came out from under the influence of ether with less subsequent annoyance than usually followed the administration of this anæsthetic. The patient himself was so much pleased with the mode of administration that at the second operation he requested that the same method be employed as was adopted at the first operation, a point which, of course, went only for what it was worth. Like the administration of ether by any method, it was important to conduct the procedure very carefully. From his experience with these cases, Dr. Peters stated that he should give this method further trial.

Dr. Charles K. Briddon had employed Nussbaum's method with much more pleasant results than any other. It consisted, first, in the administration of a full dose of morphine hypodermically, ten or fifteen minutes afterward administering the anæsthetic, then making an incision into the trachea or larynx and introducing a tube with a funnel-shaped extremity, over the end of which was secured a piece of flannel, upon which chloroform could be dropped, and he used it in preference to ether. In the mean time the fauces were packed, to prevent blood from entering the air-passages. The quantity of chloroform sufficient to maintain anæsthesia under these circumstances was exceedingly small, usually only a few drops being required. He had seen anæsthesia produced by the rectum in a number of cases by his friends, and he thought their experience was similar to that related by Dr. Bull, and that none of them would adopt the method at the present time.

The President remarked that his own experience with rectal etherization was checked early by an unfortunate case in which death resulted. It was true that in that particular case, which had been published, some errors in the mode of administration were made. Since then he had administered ether in this manner four times; in two cases the method worked satisfactorily, and in the other two cases there was some diarrhœa with dysenteric stools. He had reached substantially the conclusions already expressed by other members, and it was, to his mind, a method attended with too great risk to be lightly resorted to. He thought that the opinions already expressed had been confirmed by reports from Philadelphia and Boston, and also in one of the English journals. The method of managing the anæsthesia mentioned by Dr. Sands had suited him best in the operation of extirpation of the upper jaw.

Dr. J. C. Hutchison said he would like to express his preference for the removal of the upper jaw for necrosis *without external incision*, and referred to the following case, which was reported in full in the "American Journal of the Medical Sciences" for January, 1884.

The patient was a girl, eighteen years of age, who suffered from phosphorous necrosis of the right upper jaw and malar bone. The cheek was well retracted, and an incision made from the situation of the central incisor, along the center of the alveolar ridge, back to the posterior margin. The jaw was edentulous. The periosteum was separated from the anterior surface of the jaw around to its junction with the pterygoid process of the sphenoid bone, and upward to the malar bone, which was also now found to be dead. This was likewise denuded of periosteum, as was also the floor of the orbit. An incision was then made down to the bone along the transverse palate suture outward to the alveolar process, and another forward along the middle suture. The periosteum was now separated from the palatine process of the superior maxilla. The spheno-maxillary fissure was perforated and the broadest part of the malar bone divided, directly opposite to the perforation, by a single cut with Isaac's right-angled forceps. The nasal process of the superior maxilla was divided with the same instrument in an oblique direction from the lower termination of the os nasi to the edge of the orbit, leaving the os unguis and the superior extremity of the nasal process of the superior maxilla undisturbed, in order to preserve the lachrymal sac from injury. One blade of the right-angled forceps was then introduced into the right nostril, and the other into the mouth, and the palatine processes of the superior maxillæ were separated, as far back as the palate bone, by a single cut, and the division of the bones concerned was finally accomplished by separating the upper maxillary from the pterygoid process of the sphenoid bone. The jaw was now grasped with a duck-bill forceps, and, with a slight twist, the whole of the bone (except the upper end of the nasal process), including the orbital plate, was readily removed. The malar bone was removed in fragments with the forceps. The periosteum covering the bones was left intact. The palate bones were uninjured, so that the whole of the soft palate was preserved, supported by the palatine plate of the os palati.

At that time, 1872, he looked up the literature of the subject, and was unable to find any case reported in which the entire upper jaw and malar bone had been removed without an external incision. Whether it had been done since that date he was unable to say. He thought there were many cases of necrosis of the upper jaw in which this operation could be performed, and regarded it as desirable, especially in women. He was unable to say whether or not bone had been reproduced in his case, or, if reproduced, to what extent; but the only deformity apparent in the photograph which the patient subsequently sent him was a slight falling of the right lower eyelid.

Ovarian Tumor.—Dr. Stimson presented specimens with the following history: A patient, forty-three years of age, in good health, a widow, the mother of one son, eighteen years of age. First noticed a tumor in the left iliac fossa five years ago. It steadily increased in size, and she finally sought relief by operation from the distress occasioned by its weight and pressure. There had been no disturbance of the menstrual function. Dr. Stimson operated on the 17th of December, by making an incision a little to the left of the median line, midway between the umbilicus and pubes. On account of the thickness of the abdominal parietes, the incision ultimately reached four inches in length. When the peritonæum was exposed, it was divided with scissors to the extent of about one inch. A trocar was then inserted into the tumor, and two gallons and a half of rather thick, opaque, brownish-gray liquid were withdrawn. The tumor was grasped with the volsella forceps and drawn out through the incision, and it was then ascertained that it had no pedicle, but had developed between the walls of the broad ligament, and was continuous with the left side of the uterus. The uterus was drawn up into the opening, an incision made into the posterior wall of the sac, and an attempt made to enucleate the sac. After this had been carried far enough to make it probable that enucleation could be completed, a large catgut ligature was placed by transfixion about that portion of the mass which corresponded to the left Fallopian tube, and the upper portion of the sac was then cut away; enucleation of the remainder was rapidly completed. The portion of the sac adjoining the uterus was trimmed down, and united along the sides of the uterus with a continuous catgut suture; the raw surface of the uterus thus covered in was sprinkled with iodoform. The walls of the pouch left after enucleation were drawn up into the abdominal wound, and fixed with sutures to the skin. A rubber drainage-tube was passed into Douglas's pouch, a bone drain into the lower angle of the wound, and a second rubber drain into the pouch. The antiseptic precautions observed were purification of the hands and instruments, bichloride irrigations during the operation, and the use of sponges dipped in a warm carbolic-acid solution after the peritoneal cavity had been opened. Two of the drainage-tubes had been removed; the bone one on the second and the first rubber one on the third day; the drain which entered the pouch of enucleation was still retained, although there was but a scanty discharge from it. Since the operation the patient had done perfectly well. The sac of the tumor had rather a thick wall, with a rough and granular inner surface. In the portion of the sac cut off, the line of incision passed through a number of small cysts, which occupied the wall of the sac, and which contained a brown and rather viscid liquid.

In response to a question by the President, Dr. Stimson said he made the incision a little to the left of the median line for two reasons: first, he wished the parietal wound to include the muscular layer, and, second, because the tumor was situated upon the left side, and a lateral incision, he thought, would somewhat facilitate the operation upon the pedicle.

Dislocation of the Thumb forward.—Dr. Briddon presented a specimen showing the result of this injury, which had occurred nineteen years before the death of the patient. It was referred to a committee, consisting of Dr. Briddon and Dr. Stimson, for examination and subsequent report.

Vaginal Hysterectomy for Cancer; Recovery.—The President presented a specimen of a uterus, epitheliomatous in its lower third, which had been removed by him at the New York Hospital, by vaginal hysterectomy under antiseptic precautions, November 10, 1884. The patient, aged forty, had suffered for nearly a year with obscure pains and discharges. After the uterus had been drawn down by ligatures passed through the cervix, the bladder was separated from it by careful dissection with the finger-end and blunt scissors until the peritoneal cavity was reached, which was opened, and the uterus, which was considerably elongated, seized at its fundus by a hooked retractor and tilted forward through the peritoneal wound into the vagina. Three silk ligatures were passed on each side through the broad ligament, which was then divided close to the uterus, and the organ removed by a final cut through the peritonæum of the *cul-de-sac*. A single suture approximated the edges of the peritoneal opening, and the ligatures were left protruding on each side. The vagina was tamponed with peat-bags dusted over with iodoform, which were retained *in situ* for four days, when they were removed. A flow of urine *per vaginam* was then noticed, which persisted. As in one place the muscular coat of the bladder had been invaded in the dissection to free the organ from the uterus, the urine was supposed to come from an opening formed by the giving way of the thin spot, and some anxiety was felt for a time, since it was also recognized that the right broad ligament had been more than usually encroached upon by the ligature in the desire to get well beyond a suspicious thickening felt in this region. It was feared, therefore, that the ureter might have been involved; a later distension of the bladder with milk, while the vagina was opened by a speculum, showed that the leakage was in the bladder, though the fistula could not be seen. The opening closed spontaneously December 19th, the last ligature came away on the 15th, and the patient left the hospital on the 23d.

Laparo-hysterectomy for Uterine Fibroids.—The President also showed a specimen of uterine mural fibroids, weighing eleven pounds and a half, which he removed by abdominal section at the New York Hospital, November 21, 1884, from a single woman, forty-five years of age, who was much exsanguinated by hæmorrhages of five years' duration. The operation was conducted in a room filled with carbolic-acid spray, though none was directed upon the seat of operation. The incision required was nearly eight inches long, and just permitted the emergence of the tumor, which was irregular in shape, being, in fact, trilobed. The broad ligaments, with the ovaries, were tied off by silk ligatures, and then divided down to the neck of the uterus, and Thornton's clamp or *écraseur* was temporarily passed around the mass to make a groove for the elastic ligature, which was then tied tightly and the parts above removed. About two inches of the cervix was left. This stump was very movable, and could easily be applied to the lower angle of the wound. It was secured there by a long needle, which traversed t and rested with its free ends on each side of the abdominal wound. The parietal peritonæum was sewn about the pedicle, irst to the skin, and subsequently to the peritonæum of the pedicle, so as to shut it off from the general peritoneal cavity. The remaining portion of the wound was closed as usual, the peritoneal edges being sewn, in addition, by a continuous catgut suture. The pedicle was dusted with iodoform, and peat-bags were applied to keep the parts as dry as possible. The patient did well for three days, when, elevation of temperature coming on to 103° F., with distension of the upper part of the abdomen, a rubber coil was applied to the belly. The next day repeated bloody evacuations from the bowels took place, which continued, with a normal temperature, until the 27th, when the patient died. The autopsy showed no inflammatory action in the abdominal cavity nor in the abdominal walls. Micrococci were found in the kidneys, which were in a condition of chronic nterstitial inflammation. The quantity of urine passed subsequent to the operation had been satisfactory. In addition to he uterus removed, specimens showing the line of union of he wound and the condition of the stump were exhibited.

Dr. Hutchison inquired concerning the usual behavior of elastic ligatures left in the abdominal cavity.

Dr. F. Lange said it seemed that in most cases the rubber igatures became encysted, and gave no subsequent trouble. In his last case, however, about eight weeks after the operation he patient began to have a discharge, and the ligature with the tump of the uterus came away through the vagina. At that ime the patient had passed from under his observation. Subequently he saw her, and she was in a very comfortable condiion, although there was still some discharge from the vagina, but he was unable to detect the opening through which the igature and the stump of the uterus had escaped. It seemed to him that they must have passed through the cervical canal. He might also mention that the ligature was applied very deep, immediately above the fornix of the vagina, and perhaps this immediate proximity to the vagina had something to do with the discharge of the ligature through the cervical canal.

Dr. Bull had had a similar experience with regard to the silk ligature after removal of the uterus, including the ovaries, for a large subperitoneal uterine fibroid. Six months after the operation the patient came back, and said that a discharge had persisted from the vagina since about two months after the operation, and, on making a vaginal examination, he saw a piece of silk hanging from the os, which he seized and withdrew, and found that it was the entire ligature. In cases where the uterus was made the pedicle, the fact of the liability of the escape of the ligature and the stump through the vagina had been used as an argument for the external treatment of the stump; at all events, it was one of the features of the intra-peritoneal treatment which was undesirable.

Dr. Lange remarked that it was difficult to see how one could secure a deep-seated pedicle and treat the stump with the ligature through an external opening.

Dr. Briddon thought no definite rule could be established, but that each case should be decided by itself, and chiefly by the length of the pedicle. He thought that the manner of escape was easily explained by the results of experiments which had already been reported in Sir Spencer Wells's book—namely, that the sutures shut off entrance to the peritoneal cavity, adhesions between the peritoneal surfaces occurred within a few hours, and, if ulceration went on, the more direct way of escape was into the vaginal cavity.

A New Needle-Holder, for holding needles flattened from side to side instead of antero-posteriorly, was shown by Dr. W. S. Halsted. The especial advantages which it possessed were, that it could be taken apart readily and cleaned, and that it did not allow the needle to rotate and slip.

CLINICAL SOCIETY OF THE

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of December 20, 1884.

(*Concluded from page 53.*)

A Portable Galvanic Battery was shown by Dr. Charles Henry Brown. The cells were wide-mouthed bottles an inch and an eighth square, and three inches deep; the necks inside and outside were well covered with paraffin, and furnished with loosely fitting paraffined corks, through which passed the connections, of drawn *pure*-silver wire. A strip of zinc two inches long, half an inch wide, and a sixteenth of an inch in thickness, was soldered to one terminal, and the other ran through a block of fused chloride of silver an inch and three quarters long, three eighths of an inch wide, and an eighth of an inch thick. The elements dipped into a solution, which filled the bottles about three quarters full, of forty-five grains of ammonium chloride in a quart of rain or soft water. The cells were arranged in series. The terminals or connections passed upward through a hard-rubber plate above the cells, and were connected to studs in such a way that one could select any of the elements without necessarily using the first cells, and so give all the cells the same amount of wear. The size of a battery of fifty cells, in a case, was fifteen inches in length, seven in width, and six in depth, and it weighed about ten pounds. In the cover there was a very convenient and easily manipulated commutator. The connections from the studs to the commutator were by means of two conducting cords tipped with metallic sockets covered by hard rubber. Three electrodes accompanied each instrument—one of malleable copper, six inches long and two inches and three quarters wide; the two others were sponge-covered discs of zinc two to three inches in diameter. The chemical reactions between the elements of this battery were analogous to those in a Daniell battery. The depolarizer was the chlorine in the fused plate of chloride of silver ($AgCl$). The zinc asserted its affinity for the chlorine in the chloride of ammonium (NH_4Cl), driving the ammonium (NH_4) toward the negative (silver) plate, where it displaced the chlorine from its combination with the silver, forming again chloride of ammonium, leaving free silver on the negative plate. This process continued till all the chlorine from the block of fused silver chloride was used up. The cell would furnish its full standard of electro-motor force so long as any chlorine remained in chemical combination with the silver on the negative plate. When the last of the chlorine was removed from the silver, the active elements were merely zinc and silver, with a mixed solution of ammonium chloride and zinc chloride in water. After this the cell became inconstant, polarizing, and incapable of producing its standard amount of electricity. The electro-motor force of the element was 1·04 volt. The internal resistance was 5 ohms. There was no salting or uncleanliness. It would do an hour's constant work through the resistance of the human body, say 3,000 ohms, every day for about two years before the chlorine all became exhausted (provided it was not abused by short circuiting, when it would run down in three hours). The cost of a battery of thirty-one elements was about $35 ; of one of fifty elements, $55 ; the renewal of the elements cost twenty-five cents each. He had yet to see the battery that met all the requirements perfectly, but this little battery was the best portable galvanic battery he knew of.

Dr. G. B. Hope presented a further modification of the electric light for medical purposes. He did not yet find the light sufficiently bright for the laryngoscope, but quite enough for any work upon the mouth. He would recommend that the inner surface of the hood be completely coated with amalgam, so as to act as a reflector.

Some Experiments and Observations in reference to the Diagnostic Significance of Epithelial Cells in the Urine.—A paper with this title was read by Dr. William Henry Porter. It was well known, he said, that there was great variety in the form of the epithelial elements found in the urine, some of which were derived from the urinary tract, and others from the generative organs, while a smaller number might come from the air-passages, the mouth, or the skin. But, of all these, the variety known as flat or pavement epithelium, the tailed cells, and the small angular cells commonly called "renal," had given rise to the most discussion.

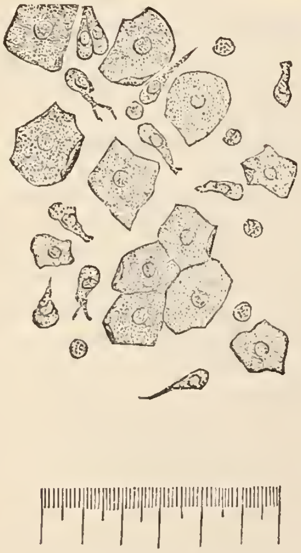


Fig. 1.—Cells found in Urine. Each division of the scale equals 0·0033 mm., or 3·3 μ—roughly, 3⅓ μ. The large flat cells average, probably, from 40 to 55 or 60 μ in their greatest diameter. Fifty cells, measured carefully by the author, averaged 49 μ in their greatest diameter, and 37 μ in the diameter at right angles with that one.

Naturally, epithelial cells from the urinary tract were found most frequently in either sex. On the other hand, the urine of the female almost invariably contained a peculiar sort of large and angular cell that had been regarded as peculiar to the sex. But all varieties, sizes, and forms of epithelial cells might come from the bladder, the ciliated form excepted. The structure of the bladder distinctly explained this, because it was divisible into three separate layers. The innermost or deepest was composed of several strata of small cells varying in size and shape, but usually cuboidal or rounded in outline. When these cells were shed rapidly they increased in size and had a more globular form, especially in catarrhal conditions or when the membrane was inflamed in any way. The intermediate plane was made up of a single or in part double layer of pyriform cells. Their tail-like prolongations were either single or double, but usually single, and fitted in between the epithelial cells of the deeper layer. Their rounded or outermost ends fitted into depressions in the inferior face of the superficial cells. The third or outer layer was composed of a form of flattened cells called transitional. These cells were made up of large masses of protoplasm which usually appeared to have two or more nuclei, but often this phenomenon was an optical illusion, and one at least of the apparent nuclei was produced by the fossa on their lower surface where it rested upon the underlying corpuscles. In cases of an ordinary catarrhal condition or inflammation, the epithelial membrane might be cast off in separate layers or with its three strata adhering together and appearing together under the microscope. But a careful examination of the mucous membrane of the renal pelvis, of the ureter, and of the vagina demonstrated that in all these regions the membrane was composed of three strata of cells similar to those found in the urine (Fig. 1 and Fig. 2) and from the bladder, ureter, and renal pelvis (Fig. 3). Now, though the variety known as vaginal epithelial cells had been said to be the most common in the female, investigation tended to show that they were quite as likely to come from the bladder, and even from the ureter or the pelvis of the kidney. There was another quite interesting point of medicolegal interest in connection with these cells, some alleging that they were always absent in the virgin. The reader's attention had been especially called to this subject when making a necropsy upon a female patient, aged eighteen, who had died twenty-four hours after a fracture of the skull. When the kid-

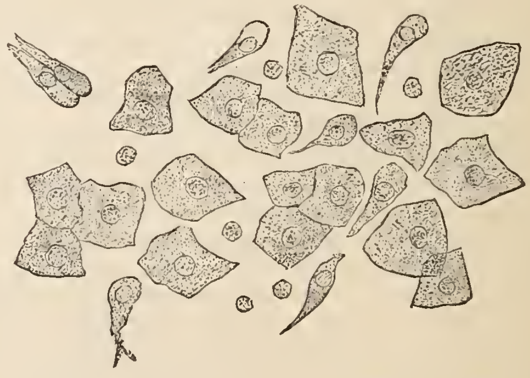


Fig. 2.—Cells from urine removed through an abdominal opening into the bladder.

neys were examined they unexpectedly gave every macroscopic evidence of a chronic parenchymatous metamorphosis. The urine was desired for examination, to see if it contained evidence of the renal lesion, which it did in every particular. It was also found to contain an abundance of large flat cells identical with those commonly called vaginal, and single- and bifid-tailed cells also were abundant. In this case the urine was not withdrawn through the urethra, but the bladder, which happened to be distended, was opened from the abdominal cavity, and its contents were withdrawn through a clean syringe. Excluding the vagina, and tracing the origin of these flat cells to the bladder, their frequency in the female and rarity in the male could be explained as follows: From the loose attachment of the bladder to the movable anterior wall of the vagina there was of necessity greater mobility in the female than in the male. The frequent motion and tendency to pouching of the trigonum vesicæ, and the more frequent over-distension in the female, tended to excite a mild catarrh, which damaged the epithelial cells, loosened their attachment, and easily accounted for their frequent and abundant desquamation. On the other hand, the firm attachments of the male bladder to the surrounding tissue, and its less mobility and distensibility, tended to hold the epithelial cells in their proper relations.

Another point of considerable interest was the dependence upon the tailed cells as diagnostic of pyelitis. One of Professor Satterthwaite's former students, Dr. Creedon, now of Globe Village, Mass., while working in the laboratory, had prepared with great care specimens of the epithelial cells from the different portions of the urethra, bladder, ureters, pelvis of the kidney, and renal tubules. He made accurate measurements and also drawings of the cells removed from the various regions. The result of his research was that single- and bifid-tailed epithelial cells were present throughout the mucous membrane of the urinary tract, from the meatus urinarius to the papillæ of the kidney. He further found that the renal epithelial cells and those from the deeper layers of the urinary tract and from the uriniferous tubules of the kidney also corresponded exactly in size and shape in all the specimens and in the different regions. Of course, various sizes and shapes existed throughout. This careful observation was strong evidence in favor of the impossibility of locating with certainty the source of any given variety of epithelial cells when found in the urine. These experiments were made upon subjects in which the membrane was free from any inflammatory process at the time of death. If the membrane was the seat of any inflammatory action, the rapid metamorphosis, subdivision, and desquamation of the cells would tend to make the similarity still greater. In the instance already cited, the tailed epithelia, both single and bifid, were abundant, but there was no evidence of pyelitis or any inflammatory condition of the urinary tract at the necropsy. There was, however, catarrh of the bladder. To establish more certainly the close similarity in the shape and size of the epithelial cell in the various regions and layers, further examinations of the mucous tract were made, with the following result: A necropsy was made a few days since on another female, aged eighteen. Specimens were carefully prepared from the pelvis of the kidney, the ureter, the fundus and trigonum of the bladder, and the vagina. Drawings and measurements were made by Dr. George E. Van Schaick of the various kinds of cells from the different regions, also of the cells found in the urine taken from the bladder at the first necropsy. In all the different regions, and in both cases, the size and shape so closely corresponded that no apparent difference could be made out, as was well illustrated by the drawings. The speaker also measured the same specimens, and the figures corresponded. The only possible variation that could be detected in the flat cells was a slight variation in size, those from the vagina and bladder being a little larger than those from the other two regions.

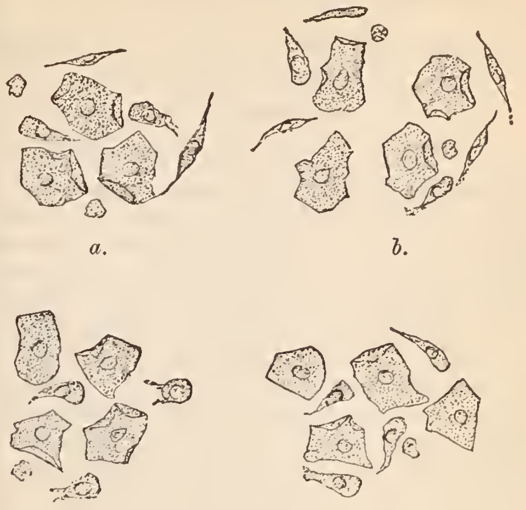


Fig. 3.—*a*, Cells from the vagina.
b, The six cells on the left came from the trigonum vesicæ, and the six to the right from the fundus of the bladder.
c, Cells from the ureter.
d, Cells from the renal pelvis.

The middle layer of the vagina contained cells that approached the spindle form more than the pyramidal kind.

Renal epithelial cells were often described as occurring free in the urine, and as being recognizable as such under the microscope, but the writer's opinion was that it was absolutely impossible to diagnosticate with certainty between renal cells and those of the deeper layer of the mucous membrane of the urinary tract. Either one might be mistaken for the other. Buccal epithelial cells might occasionally find their way into the urine, as when the receptacle for the urine served the purpose of a spittoon. They were, however, said to be distinguished from the vaginal cells by a more regular outline and by being larger. Specimens of these cells had been prepared for comparison, but in size and shape they presented so many points in common that no marked difference could be drawn. Measurements of these cells gave the same results as in those taken from the urinary tract and the vagina.

Ciliated epithelial cells were occasionally found in the urine, and might come from the air-passages through the sputa, but were more likely to come from the uterus or the Fallopian tubes in the female, and the ejaculatory ducts, vesiculæ seminales, or vas deferens in the male.

The results obtained by Dr. Creedon, and the observations in these two cases, gave additional proof of the untrustworthiness of the statement of Professor Ebstein in von Ziemssen's "Cyclopædia of Medicine," vol. xv, p. 574, that the occurrence of tailed epithelial cells in purulent urine was the most positive indication that the patient had pyelitis.

The conclusions deduced from this study were: that flat epithelial cells were found in the urine of females more frequently than in that of males; that they originated both in the vagina and in the bladder, and probably more frequently in the bladder and the urinary tract; that they desquamated more frequently and in larger numbers from the female bladder on account of the loose attachment and greater mobility of the former, and were more frequent after the termination of virginity on account of the increased mobility of the genito-urinary tract; that isolated angular "renal" cells could not be distinguished from those of the third stratum of epithelia at any point of the urinary tract; and that no distinctive feature could be ascribed to any cell or set of cells by which its place of origin could be determined.

MARION COUNTY, IND., ACADEMY OF MEDICINE, INDIANAPOLIS.

Meeting of December 16, 1884.

The President, Dr. John Chambers, in the chair.

Antipyretics.—Dr. L. D. Waterman introduced this subject, and remarked that pyrexia was the basis of it. Fever was a profound disturbance of nutrition. There was increased heat with diminished constancy of heat. The increased elimination of urea, potassium salts, hæmoglobin, water, and carbonic acid, with diminished excretion of sodium salts during fever, and the reverse during defervescence, clearly indicated that the liquor sanguinis was not the source of the waste. But the stored albumin of the tissues and of the red globules was the source of the oxidation that was manifest in the increased heat which we denominated fever. The patient lived along a higher average line of temperature than normal, with greater vibration across that line. There were generally, if not always, specific causes for this disturbed heat level. Heat might be more produced or less wasted, either or both. The conditions of heat disturbance were often complex. The problem might be approached from many points, e. g., the nutrient cells, or the nervous centers; but the latter one would be the subject of his consideration. There was probably a heat center near the excito-motor and inhibitory centers. The primordial cell was a nervous circulatory and nutrient center, as well as excretory and self-regulating. As the body became complex by differentiation of function and structure in development, the regulative power became resident in the nervous centers. That power, within limit, was sufficient, and the ganglionic cells preserved in wonderful uniformity the heat of the body, despite all those constantly acting causes which tended to disturb its equilibrium. It was through these nerve cells that drugs mostly acted. Every agent affected the heat of the body somewhat. But, when the organs were intact, there was a compensatory action. That the heat condition was profoundly under the influence of the nervous centers was well seen in two such cases as he had recently seen. One was that of a healthy, sensitive man, who discovered in the night that he had a local specific sore, after exposure. He presented himself in haste and alarm, and his temperature was 94·5° F. The next morning it was normal. In an individual under great anxiety the temperature was 103·5°, but when, by a strong effort, the trouble was dismissed from his mind, the normal was soon reached. No subsequent disturbance was observed in either case save the vibratory movement as the temperature returned to the daily normal condition. Such facts were well known, and, while not proving that heat was regulated by a definite heat center in the nervous system, they showed that its uniformity was so influenced, and made it highly probable that the combined functions that gave uniformity were co-ordinated from a definite center. But heat was only one symptom of that profound disturbance, fever; a secondary result of great value as an indicator as well as a gauge of its degree.· Each zymotic fever had its specific cause, and correspondingly typical disturbances of the heat equilibrium; so also did each local cause give a corresponding heat movement. We had a syphilitic, a bubonic, a variolous, a choleraic, a diphtheritic disturbance of heat, etc. The increased heat was not by itself the cause of all the bad symptoms attributed to it, though it was a factor. The worst effect was due to the destruction of vital albumin, impeding the function of the cells. The cause, not the consequences, was of the greatest importance. There were probably unknown chemical products, possibly ferment elements, brought about in the body resulting from the changes that took place during the chemical disturbance, which further complicated the question. In so complex and mobile a domain as the living human body, causes which were the same did not always necessarily produce like results on individuals. The true antipyretic would remove the cause, and not merely alleviate a symptom, however important that symptom might be. True antipyretics were rare, as yet, but they were increasing in number with the development of medical science. Physiology was yet too incomplete to be an absolutely reliable basis, and pathology and therapeutics were correspondingly so. Meanwhile each case must be a study. Routinism was never safe. There was a range of temperature of nearly twenty degrees in disease. Ordinarily the limits were less, from 92° to 109° F. There was a too much neglected range of heat below this average, of equal importance with that above the normal. The great sweep of the antiphlogistic theory had caused medical men to neglect too much the effect of heat below the normal. Many specific causes might be found to produce primarily reduced temperatures, such as cholera in its primary effect. The causes of hyperpyrexia were, fortunately, often short-lived if not necessarily fatal. If we could sustain the individual, they usually exhausted themselves rapidly. The aim of the physician in cases of fever was prevention, detoxication, support, and repair. The true antipyretics were antizymotic, antiseptic, eliminative, and antidotal, and in reference to the living body they were yet in their infancy. For the present our efforts were to a great extent tentative. There was no agent that might not be injurious which would reduce the temperature from 106° to 99° in a very short time. It was always safe to abstract the accumulated heat, without shock, frequently and gradually, by means of cool or tepid baths, sponging, etc. The more rapidly the temperature was reduced, the more liability there was to injury. The temperature should never be allowed to accumulate so as to require sudden means of reduction. A bath that was pleasant to the patient might be continued, its temperature being gradually lowered, until the heat of the body was 100° or less, without shock. Very large doses of quinine, etc., while the effect was complex (antizymotic and tonic, increasing excretion and cell-activity generally), were sometimes dangerous. Veratrum, colchicum, aconite, and that class of depressants, while they lessened oxidation by diminishing cell action, might be used safely in sthenic cases, even to their full effects, but never in the later stages. In plethoric persons, in the earlier stages of fever, depletion might be admissible occasionally, to reduce a hyperpyrexia. Starvation belonged to the same category, and was unintentionally often the real remedy as well as the real damage of nature. Alcohol, in asthenic cases, with or without moderate doses of quinine, salicin, salicylic acid, and similar remedies, conjoined with food of suitable character, milk, etc., would reduce fever by evoking the functional activity by which heat was regulated. Opium was occasionally a safe antipyretic; so were ammonia, ether, etc.

We should measure and treat the individual, not the name of the disturbance. Each case of hyperpyrexia was a complex and complicated problem. All powerful agents were susceptible of misuse and abuse. The true antipyretics were: 1. Antiseptics in the wide sense. 2. Heat removal. 3. Increase of cell action. 4. Lessening of chemical action. Recently one of four little girls was found with a temperature of 104°, a scarlatinous eruption over the entire body, sore throat, etc., after having been sleeping during the night with her three little sisters in one bed. None of them had previously had scarlatina. They were immediately separated. The well children were washed, their clothing was changed, and they were sponged well with freshly prepared chlorine water, to which a small quantity of sulphurous acid was added. Between the two rooms were hung sheets sprinkled with this fluid, and vessels of it were placed in various parts of the room. The sick child was given half-drachm doses of sulphurous acid every two or three hours. After two or three doses, the temperature fell to 100°. The eruption faded with unusual rapidity, the throat improved, and the appetite and playfulness of the child returned. The temperature never went above 101°. Subsequently there was no affection of the kidneys or lymphatic glands. The other children were given from ten to twenty drops of sulphurous acid every three hours. They escaped the disease. While not certain, it was highly probable that this prompt personal disinfection, conjoined with the frequent bathings, profoundly affected the course of the disease. We should limit our remedies to affecting function, within safe limits, never permitting them to go to the extent of affecting structure. Food was the true tonic; rest the true reparative; exercise, not strain, the true strengthener. All remedies which acted merely on symptoms and secondary causes of disturbance were palliative; they only became curative when there was a strong tendency in the patient to speedy and healthful restoration of the disturbed balance of function. To this class belonged aconite, colchicum (except when eliminative), purgatives, opium, jaborandi, etc. They should be used early, for short periods, and cautiously. In prolonged fevers such diminution of vital action became dangerous if too long continued. We should ever keep steadily in view the removal of the cause, the detoxication of the living body, as the true and final end of our therapeutic efforts.

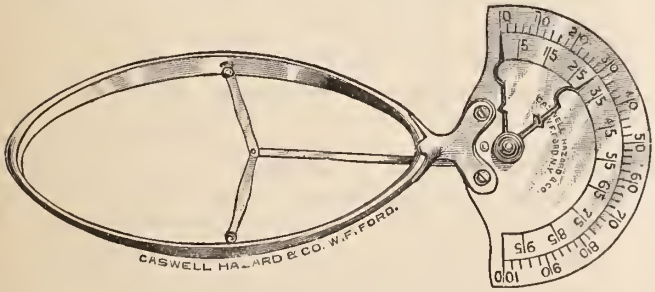
New Inventions, etc.

A NEW FORM OF DYNAMOMETER.

By Græme M. Hammond, M. D.,

ASSOCIATE PROFESSOR IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

The older form of spring dynamometer, in which the dial-plate is attached to the inside of the spring, presents many objectionable features which I have endeavored to overcome. In that instrument the hand of the individual grasping it completely conceals the dial-plate from view, thereby necessitating the use of the dynamograph in order to detect the inability to retain steady muscular contractions, exhibited either as a gradual but steady relaxation of the muscles, or as irregular waves of muscular force. In its present form, as will be seen from the accompanying illustration, the dial-plate is placed on the outside of the spring, thus enabling the observer to witness the gyrations of the needles while the instrument remains in the patient's grasp. With this instrument the dynamograph is unnecessary, as the upper needle, returning to the starting-point with the relaxation of the spring, indicates very clearly a steady diminution or irregularity of muscular tension. Another advantage is that, the dial-plate being larger and the hands longer than those of the older form, slighter degrees of pressure and relaxation are more readily indicated.



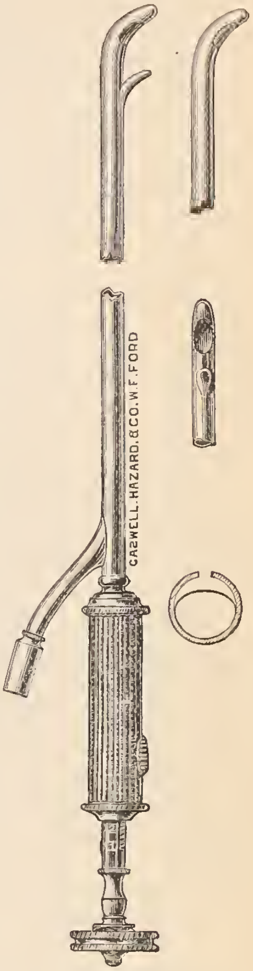
A COMBINED CRUSHER AND EVACUATOR.

By Joseph D. Bryant, M. D.,

PROFESSOR OF ANATOMY AND CLINICAL SURGERY IN BELLEVUE HOSPITAL MEDICAL COLLEGE.

Permit me, through the columns of your journal, to call the attention of the profession to a contrivance which, for the need of a better name, I will call "A Combined Crusher and Evacuator," intended for use in litholapaxy. The idea of the possible utility of such an instrument suggested itself to me some time since, after a somewhat annoying effort on my part to seize the "lost fragment," the existence of which could be easily and quickly demonstrated by the characteristic "click" against the eye of the evacuating catheter during the washing-out process. I also recalled the fact that, on other occasions, the suction force of the washer had been temporarily arrested by the closure of the eye of the evacuating catheter by a fragment of calculus. As a result of these observations, the following instrument has been constructed at my suggestion by Mr. W. F. Ford, of this city.

The male blade of an ordinary lithotrite is modified to fit into the anterior or concave wall of the ordinary evacuating catheter, which is lined with a brass tube. The washer can be easily connected with the caliber of the instrument, as shown by the cut. It is not thought or expected that this instrument can supplant the lithotrite. The idea is to crush the stone at the first introduction of the lithotrite as effectually as practicable, and to then introduce the combined instrument instead of the simple evacuating catheter; by means of this the detritus already crushed is removed from the bladder, and such of the remaining fragments as are drawn into the throat of the instrument are crushed and likewise removed. It thus becomes possible to avoid the interchange of instruments incident to repeated crushings. With an assistant to work the washer, the operator can devote his entire attention to crushing the fragments sucked into the throat of the instrument. The manifest advantages thus gained by its use are numerous from a manipulative point of view alone. When applied to an extemporized bladder it works admirably, and would seem to lack only the perfecting influence of repeated practical applications to constitute a genuine advancement in litholapaxy. In my opinion, a second suction-bulb should be added to the one already existing, that the detritus caught and held by the influence of the latter, during the crushing process, be supplemented by that of a second which shall remove it at once, without the necessity of its being thrown into the bladder, as will be done in emptying the original bulb, preparatory to pumping.



Miscellany.

THERAPEUTICAL NOTES.

Artificial Sea-Air.—Dr. B. W. Richardson ("Asclepiad") suggests the following method of supplying a sick-room with salt air: A mixture is prepared containing one per cent. of ozonic ether, two and a half per cent. of sea-salt, and enough iodine to make a saturated solution. About two ounces of this mixture are diffused through the room by means of an atomizer, at intervals of fifteen minutes. The vapor not only has the bracing odor of sea-air, but is a powerful disinfectant.

Protracted Baths for Infants.—Winckel ("Arch. f. Gyn.") advises protracted warm baths under the following circumstances: 1. Extreme feebleness in infants from four to six months old. 2. For infants asphyxiated during delivery. 3. In skin eruptions, especially intertrigo and non-specific pemphigus. The children are kept in a bath (at a temperature of from 96·8° to 100·4° F.) for days continuously. They eat and sleep in the bath, and are perfectly tranquil.

A Method of Reducing Temperature.—Stephan ("Allgem. med. Centr.-Ztg."; "St. Petersburg. med. Woch.") says that the application of ice-bags over the supra-clavicular regions during fever is followed by a marked reduction of the temperature. In several cases of typhoid fever treated in this manner he was able to control the fever, while the sensorium remained clear. The explanation offered is that many large superficial veins are situated in the neck, and that by the direct application of heat to them the temperature of the blood is lowered rapidly.

The Intra-venous Injection of Salt.—Riegner ("Breslauer ärztliche Ztschr.;" "Centralbl. f. klin. Med.") reports three cases of collapse following copious hæmorrhage in which the patients were saved by a timely resort to intra-venous injections of a 0·6-per-cent. solution of salt. From forty to fifty ounces were injected at once. The effect was prompt and satisfactory. [This contribution is to be regarded as one of the most positive that have yet been made to this subject.]

Phosphated Peptone in the Vomiting of Pregnancy.—Indet ("Gaz. des hôp."; "Centralbl. f. Gyn.") has employed this preparation successfully in cases of vomiting that had resisted other treatment. He gave six tablespoonfuls of the peptone phosphate, and subsequently increased the dose to twelve tablespoonfuls.

The Action of Paraldehyde and Acetal compared.—Landreuter ("Arch. f. Psych."; "St. Petersburg. med. Woch.") has made several hundred observations regarding the therapeutical action of these preparations. He regards paraldehyde as a most trustworthy sedative in doses of a drachm or a drachm and a half. It acts more rapidly and more safely than chloral, and is without unpleasant after-effects. Acetal is similar in its action, but has a very disagreeable taste and smell, and gives rise to painful micturition, a general feeling of weakness, and other unpleasant effects. The following formula is recommended:

Paraldehyde..................	an ounce and a half;
Oil of peppermint.............	10 minims;
Olive-oil......................	to 30 ounces.

The Treatment of Tubercular Meningitis with Free Phosphorus.—Green ("Practitioner") reports a well-marked case of tubercular meningitis which he treated with doses of one sixteenth of a grain of free phosphorus, given every four hours, in oil. After having remained unconscious for nearly a week, the patient rallied, and eventually recovered from the meningitis, but died a month afterward of acute pulmonary tuberculosis.

The Treatment of Small-pox Papules with Ether and Opium.—Tenneson ("Bull. gén. de thérap.") has treated eleven cases of small-pox after the method recommended by Ducastel. As soon as the papules appeared, they were injected twice daily with a mixture of two or three grains of extract of opium and half a drachm of ether. The needle was carefully cleansed after each injection. In nearly every case, not only were the papules aborted, so that they did not go on to the formation of pustules, but there was an actual shortening of the febrile stage of the disease.

Glycerin Nasal Plugs in Hay Fever.—O'Connell ("Brit. Med. Jour."), reasoning from the dehydrating action of glycerin tampons when placed in the vagina, suggests the same treatment for reducing the nasal congestion in hay fever. He states that relief is experienced within a few minutes after the plugs are inserted.

Rice as a Remedy for Diarrhœa.—Colvis ("Union méd.") recommends an infusion of roasted rice in the treatment of diarrhœa in infants. It is prepared in the same way as coffee. [This is a well-known domestic remedy in this country.]

The Treatment of Gastritis.—The same journal gives Leven's method of treating gastric inflammation. He recommends external applications of ice, and counter-irritation over the region of the stomach by means of tincture of iodine. At the same time he uses internally sulphate of sodium and bromide of potassium, the latter in doses of from four to eight grains. If bismuth is given, it should be in doses of eight grains, just before meals.

Capillary Puncture of the Bladder.—Rosenberger ("Centralbl. f. Chir.") speaks highly of this procedure in cases in which it is desirable to give the urethra complete rest. He recommends it especially in obstinate strictures. A capillary tube is passed into the bladder through the rectum, and the organ is evacuated and washed out twice daily. No bad effects have been observed.

Salicylized Cotton.—The "Union médicale" gives the following directions for preparing the cotton:

Salicylic acid.....................	2½ drachms;
Glycerin......	15 minims;
Absolute alcohol..................	each, 3 ounces.
Purified cotton....................	

Dissolve the salicylic acid in the alcohol, then add the glycerin; the cotton is immersed in this solution, dried, and preserved in bottles.

Albuminuria from Chloroform Inhalations.—M. Terrier ("Union méd.") has made a series of experiments with the view of deciding this question. Of ten cases which were carefully observed with reference to the presence of albumin in the urine, it was discovered in eight in which there had been no operation. The period of anæsthesia varied from thirty to seventy-five minutes. In another series of ten cases, in which surgical operations were performed, albumin was present in every instance. Whenever a slight trace of albumin had been found before the anæsthesia, the amount was greatly increased (*exagérée dans des proportions énormes*) after the anæsthesia. [These experiments are noteworthy in connection with the opinion that chloroform is safer than ether for patients with renal disease.]

The Paris School of Medicine.—According to the "Union médicale," there were 3,994 students registered on the 15th of October. On the 1st of December the number included 538 foreigners, among them 127 Americans, 96 Russians, 61 Roumanians, 52 Spaniards, 45 Turks, 30 Brazilians, 26 Swiss, 25 Greeks, and 22 Englishmen. The number of lady students is 78, including 13 belonging to France, 47 from Russia, 11 from England, and 3 from America.

A Medical Centenarian.—According to "The Dartmouth," Dr. O. S. Taylor, of the class of 1809 of that college, living at Auburn, N. Y., completed his 100th year on December 17th. He also graduated from the medical college in 1813, the second class that went out from that institution. As far as is known, he is the oldest living graduate of any American college.—*Boston Medical and Surgical Journal.*

The Pennsylvania Hospital for the Insane.—We learn from the "Buffalo Medical and Surgical Journal" that Dr. Edward N. Brush, recently of the New York State Lunatic Asylum, at Utica, and formerly of Buffalo, has been appointed to take charge of the male patients in the Pennsylvania Hospital for the Insane, of Philadelphia.

The College of Physicians of Philadelphia.—We learn from the "Philadelphia Medical Times" that at the recent annual meeting the following-named gentlemen were elected to office: Dr. J. M. DaCosta, president; Dr. S. Weir Mitchell, vice-president; Dr. Richard A. Cleemann, secretary; Dr. Charles Stewart Wurts, treasurer; Dr. J. H. Hutchinson, honorary librarian; and Dr. J. Ewing Mears, recorder.

The Health of Michigan.—It appears from the summary of reports made to the State Board of Health, by observers in different parts of the State, for the five weeks ending January 3, 1885, for a copy of which we are indebted to the secretary of the board, that during the month of December, 1884, as compared with the same month in the preceding six years, inflammation of the bowels, cerebro-spinal meningitis, influenza, neuralgia, and erysipelas were more prevalent, while intermittent fever, diphtheria, pulmonary consumption, pneumonia, and membranous croup were less prevalent. Diphtheria was reported from forty-nine places, scarlet fever from thirty-six, and measles from six.

THE NEW YORK MEDICAL JOURNAL, JANUARY 24, 1885.

Original Communications.

ON SURGICAL TUBERCULOSIS.

By R. J. HALL, M.D.

(Continued from page 64.)

The technique of the examination may be considered under the following heads: 1. The selection and preservation of material, cutting, staining, and mounting. 2. Apparatus necessary for making the examinations, and mode of examining.

1. It is almost unnecessary to say that only material should be selected containing the well-known gray gelatinous tubercle, usually dotted with small caseous specks. As this is difficult to recognize, after immersion in alcohol, the selection should be made before hardening, or much time may be wasted in cutting. It is best to place the specimen directly in absolute or 95 per cent. alcohol, and cut as soon as it is sufficiently hard. Müller's fluid can be used,[*] but has no advantages, except the clearer demonstration of the tubercle reticulum,[†] while the granular precipitates to which it gives rise in the tissues interfere more or less with all mycological examinations.[‡] Commencing putrefaction does not prevent the demonstration of the bacilli, and they can be found even in old alcohol preparations.[#] On account of the very small number of bacilli found in most cases of surgical tuberculosis, it is usually necessary to examine a number of sections, and it is very desirable that they should be moderately thin and of even thickness throughout. A good section-cutter is therefore almost an essential, and I have used always the larger size made by Jung, of Heidelberg.

The staining of the tubercle bacillus depends, as is well known, on the fact that, after staining the object to be examined in a solution of one of the aniline dyes, usually fuchsine or gentian-violet, made in a particular way, it can be decolorized by the dilute mineral acids and alcohol, when only the tubercle bacillus retains its color. The specimen can then be stained with a contrast color, as methyl-blue for fuchsine, and bismarck-brown for gentian-violet. This makes it easy to study the histology of the tissue, and forms a background on which the bacillus stands out more distinctly. There are a number of theories of the cause of this peculiar reaction of the tubercle bacillus, but none are at all satisfactory, and they need not detain us. Koch has himself discarded his original method of staining, and I will therefore not stop to describe it.

I have used altogether Ehrlich's method, which, with more or less modification, has been employed by almost all observers. My exact procedure has been as follows: To distilled water so much anilin-oil is added that, after shaking vigorously, some still remains undissolved; this is allowed to stand for a few minutes, being shaken at intervals, and then passed through a moistened filter, when a clear fluid should be obtained. To this is added, drop by drop, a saturated alcoholic solution of fuchsine or gentian-violet, until a metallic shimmer appears over the whole surface. In this staining fluid the sections are immersed for twenty-four hours. Fluids are spread in thin layers upon cover glasses, allowed to dry, passed three times moderately fast, with the smeared side upward, through the flame of an alcohol lamp or Bunsen burner, and then floated on the fluid for the same length of time. At a temperature of about 50° C. one hour is sufficient,[*] but I have found it more convenient, and thought it surer, to keep them twenty-four hours. They are then transferred directly to 30-per-cent. nitric acid for a few seconds, washed for a few seconds in about 60-per-cent. alcohol, and stained again in a solution of methyl-blue or bismarck-brown, made by adding a saturated alcoholic solution of the coloring matter to distilled water until the mixture begins to lose its transparency. The specimens remain in this for five to ten minutes, are then washed in dilute alcohol, dehydrated in absolute or 95-per-cent. alcohol, cleared in oil of cloves,[†] and mounted in Canada balsam. These rules are identical with those most recently given by Koch,[‡] except that he uses nitric acid, one part to three or four parts water, leaves the specimens in the staining fluid twelve hours, as the minimum, and gives exact proportions for making the staining fluids; and these changes are, I have no doubt, improvements. In my earlier work I met with certain difficulties which it may be well to mention. Almost all the descriptions which I had at that time read spoke of the necessity of completely decolorizing the specimen in the acid. This I found to be quite impossible after the sections had been twenty-four hours in the staining fluid. Even after twenty-five minutes in the acid, a considerable amount of color remains in the tissues; it is, however, completely removed by the alcohol. There does not seem to be much danger of bleaching the bacilli by the acid if the section has been stained during twenty-four hours, as I have found them very abundant in specimens which had been twenty-five minutes in 30-per-cent. nitric acid. There is, however, great danger of decolorizing partially or completely some or all of the bacilli, when stained by any of the short methods, so useful for examining the sputum. I would therefore strongly advise against the use of any of these short methods, in surgical cases, where it is to be expected that the bacilli will only occur sparingly, and, if but faintly tinged, may be obscured by the cells among which they lie. Koch directs, as a precautionary measure, that the specimens should only remain a few seconds in the acid. It is important that the specimens should not be immersed in water at any time after staining, as this fixes the remaining color and makes it difficult or impossible to remove with alcohol; in this way other objects besides the tubercle bacilli may retain the characteristic color, and this has doubtless given rise to many errors. The 30-per-cent. acid used to decolorize, besides being disagreeable to manipulate, sometimes shrinks the tissues to an inconvenient extent; the more dilute solution recently recommended by Koch is therefore an improvement, and he suggests that it may be safe to dilute it even more. I have found, however, in decolorizing with merely slightly acidulated alcohol, as recommended by Orth, that the nuclei of some cells, and particularly the granular protoplasm of Ehrlich's *Mastzellen*, are liable to retain the violet stain, and indifferent bacilli might possibly do the same. Horny constituents of the tissues retain the color, and fragments of this kind, such as hairs and horny epithelium, may give rise, if the fact is not known, to a suspicion that the specimen has been insufficiently decolorized. Almost all these points are discussed by Koch, whose last article on the subject I had not been able to see until after I had worked them out for myself. In accordance with most other observers, I have found gentian-violet and bismarck-brown much the most satisfactory staining. Violet has indeed the disadvantage of not showing well by artificial light, but by daylight the bacilli stand out rather better than when stained with fuchsine. Bismarck-brown also I have found more manageable as a contrast color than methyl-blue; there is, I think, less danger of overstaining, and any superfluous color can be more readily washed out in alcohol. The lepra bacillus, as is well known, alone of all hitherto known varieties, stains in the same manner as the tubercle bacillus. It differs from it, however, in shape and size as well as in coloring by Weigert's method for nucleus staining, and there is little practical danger of confounding the two. Considering the rather complicated technique, it is not strange that a small number of observers have reported that bacilli other than the tubercle and lepra varieties take the characteristic color. In one instance, where Craemer * reported the discovery of tubercle bacilli in the stools of healthy persons, Marchand † examined the specimens and states that all bacilli were stained, the preparations being insufficiently decolorized. There is such a mass of reliable evidence on the other side that it is fair to conclude that the remaining cases rest on similar errors. I have myself frequently examined decomposing urine, sputum, and pus, and once or twice tissues in which putrefaction had commenced before immersion in alcohol; all these were swarming with micro-organisms, stained brown, but I have not found any stained violet, whose shape, or size, or situation would suggest that they were not tubercle bacilli.

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[*] "Comptes rendus hebdom. des séances de la soc. de biol.," 15 Mai, 1883, p. 314. Sur la persistance des bacilles de la tuberculose dans les pièces anatomiques. M. Vignal.

[†] Schüppel, "Untersuch. über Lymphdrüsentub.," S. 9.

[‡] Friedländer, "Mikroscopische Technik," S. 50. Note.

[#] See Vignal, *op. cit.*, and Group 4, Case 1. Tuberculosis of the Tongue.

[*] Friedländer, "Mik. Technik," S. 57.

[†] Koch recommends the use of oil of turpentine, or, better, cedar-oil, instead of oil of cloves, which dissolves the aniline colors out of the preparations. Before I knew this I noticed that almost all my preparations faded very rapidly.

[‡] "Mittheil. aus dem kais. Gesundheitsamt," B. ii, S. 5.

2. The tubercle bacillus can be seen with a power of about 300 diameters, but Koch recommends 500 to 700 as best. For the examination of fluids spread on cover glasses, an ordinary microscope can be used. For the examination of sections, however, the addition of a good Abbe condenser, used without a diaphragm, is necessary. With this the outlines of the tissue are almost completely lost, and scarcely anything is seen in the field except the stained bacilli and the nuclei stained with the contrast color. The Abbe is so essential that I would not attach any importance whatever to a diagnosis made by myself or any one else without its aid. It is true that in a section rich in bacilli it is possible to see a few, using a high power, without the condenser. But, were they not known beforehand to be bacilli, it would often be impossible to assert it with confidence, while the greater number escape observation altogether. Koch insists also on the importance of using a homogeneous oil immersion. Having been disappointed in an effort to get one, I have been compelled to use a very good Hartnack water-immersion No. 10, after first convincing myself by a number of trials that the bacilli could be very well seen with it. I have found, however, where the tissues were deeply stained or the sections at all thick, some difficulty in penetrating them with the water immersion, and have no doubt the oil system would have saved much time. In surgical tuberculoses, where the bacilli generally occur very sparingly, they are usually in the giant-cells. It is best, therefore, as pointed out by Schuchardt and Krause, to pick out a giant-cell, and then examine it thoroughly, with the immersion system, going on to another only when convinced that the first conceals no bacilli.

I shall give the results of my own investigations in the following order:

I. Tubercular disease of bones and joints.
II. Tubercular lymphomata.
III. Tubercular disease of the skin.
IV. Other tuberculoses,

adding to each group such remarks as are necessary, and giving at the end the principal observations already published.

I. Tubercular Disease of Bones and Joints.—1. Fungoid arthritis of wrist, with several sinuses. Man, aged thirty-five; family history of phthisis. States that he sprained his wrist thirteen months ago; that an abscess formed in a week and was opened four weeks later. Excision February 9, 1884.

Microscopic examination of sections of granulation tissue on carpal bones shows hyaline cartilage, the cartilage cells proliferating, and granulation tissue containing a few cartilage-cells, without capsules, and at one point commencing to undergo change into cicatricial tissue. In the granulation tissue are a few tubercles containing giant-cells, and, in some cases, caseous in the center.

Four specimens examined; fuchsine; no double staining; two negative; in two a small number of bacilli.

2. Cold abscess of knee joint.

Adult man. Disease of five years' duration; joint distended with fluid; no sinuses. January 15, 1884, joint incised, and sero-purulent fluid, with large masses of fibrin infiltrated with pus, evacuated; examination of sections of fibrin; fuchsine; five specimens; three negative; two contain a very small number of bacilli.

March 19, 1884, excision of the joint.

Microscopic examination of the thin layer of tubercular tissue, lining the whole interior of the joint, shows abundant tubercles, containing giant-cells and cartilage invaded by granulation tissue.

Three specimens; violet and brown; two negative; in one a few bacilli, five or six in all, one in a giant-cell, one close to, but apparently not in, a giant-cell, the remainder on the borders of caseous material.

3. Fungoid arthritis of the shoulder joint.

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* "Sitzungsber. der phys. med. Soc. zu Erlangen," Dec. 11, 1882.

† "Die neuen Anschauungen über die Natur der Tuberculose," "Deutsche med. Wochenschr.," 15, 1883.

Adult man; disease has existed more than six years; abscesses have formed and broken in the neighborhood of the joint, and sinuses remain open. Excision May 15, 1884.

The cartilage is found to have disappeared from the head of the bone, which is in part covered by fungoid granulations, in part bare and carious. There is a large sequestrum lying loose in a cavity in the head of the bone. Gross appearance of the granulation tissue is that of gray, gelatinous granulations, with numerous white specks (caseous material) throughout.

Microscopic examination shows numerous tubercles, most containing one or more giant-cells, and advanced cheesy degeneration in places.

Five specimens, violet and brown. Two negative; in one, five bacilli in a tubercle among epithelioid cells; in another, one bacillus in a giant-cell; in a third, three giant-cells contain each a bacillus.

4. Fungoid disease of the tarsal bones.

Man, aged thirty-three; family history good; duration of disease four years; abscesses formed eight weeks ago; April 28, 1884, amputation of leg.

There is extensive fungoid caries of the astragalus, scaphoid, and cuboid. Gross appearance of the fungoid tissue the same as in Case 3.

Microscopic examination shows granulation tissue, with a border of young epidermis at one point, and containing numerous tubercles, with many giant-cells.

Five preparations, violet and brown. Three negative; in two, one giant-cell in each contains a bacillus.

5. Fungoid disease of (probably) sacro-coccygeal articulation.

Man, aged thirty-four; family history good; general health good; lungs normal. Two months ago small abscess to left of coccyx; broke in a few days, and pus, with small fragments of bone, evacuated. Sinus has remained open, and leads to an articulation, apparently that between sacrum and coccyx. Sinus lined with fungoid granulations.

May 16, 1884, resection and scraping.

Microscopic examination shows typical tubercles.

Five specimens, violet and brown. Four negative; in one, a miliary tubercle contains three bacilli, one in a giant-cell, two among epithelioid cells; two other miliary tubercles contain two and one bacilli, respectively, close to, but apparently not in, giant-cells.

6. Fungoid disease of the knee joint.

Young man. Duration of disease unknown. Numerous sinuses exist, and joint is much disorganized. Excision, May 24, 1884.

Fungoid granulations line the whole interior of the joint. No tubercular osteitis observed, and disease, probably, of synovial origin.

Microscopic examination shows typical tubercles.

Eight specimens, violet and brown. Five negative; three contain one bacillus each among epithelioid cells.

7. Fungoid disease of the ankle joint.

Boy of about seventeen. Duration of disease unknown. Joint has been incised and drained, and sinuses remain open, and are lined with fungoid granulations.

Excision, May 22, 1884.

Gross and microscopic appearances as in last.

Five specimens, violet and brown. Two negative; one contains three bacilli, and two others one each. All the bacilli are close to giant-cells, and in or among epithelioid cells.

8. Fungoid disease of ankle joint and tarsal articulations.

Man, aged about twenty-two. Disease probably primarily synovial. Suppuration had occurred, and incisions been made; sinuses remain open.

Mikulicz's operation, June 4, 1884.

Gross and microscopic appearances as in Case 6.

Five preparations, violet and brown. Three neg.; in one, two bacilli, in another one.

9. Suppurative arthritis of shoulder joint following drainage of a large hygroma.

Man, aged forty-eight. The hygroma, just in front of the anterior border of the deltoid, was first noticed nine weeks ago, and then nearly as large as when incised; had been tapped twice. Incision March 11, 1884, when fluid containing rice bodies and disorganized tissue, like cartilage, evacuated. Joint entered, and articular surfaces found eroded. Excision, June 5, 1884. The head of the bone was denuded of cartilage, carious, and covered in parts with gelatinous, gray granulations, containing, however, none of the white caseous specks. Portions of the granulation tissue from the cavity of the joint present a similar appearance, but dotted with a small number of white specks.

On microscopic examination, a large part of the section shows only granulation tissue and young connective tissue; a portion consists of non-vascular tissue, formed principally of epithelioid cells, with a few giant-cells, and at points commencing cheesy degeneration. On the borders are a few miliary tubercles, some becoming fibrous.

Six specimens examined, violet and brown. Four negative; in one, one bacillus in a giant-cell, in another two bacilli close together.

10. Fungoid disease of the hip joint.

Girl of about five. Both femur and acetabulum extensively involved, and sinuses exist.

Excision, June 18, 1884.

Both gross and microscopic appearances of the granulations are those of tubercle tissue.

Two specimens examined, violet and brown. Several bacilli found in each; two in one giant-cell.

These are all the cases of tubercular arthritis and osteoarthritis which I have examined, and, as is seen, bacilli have been found in all, though, in some cases, only after a prolonged and careful examination, extending even over several hours. Even at the risk of being tedious, I have given these cases in some detail, because, although few in number, they afford examples of each of the three forms of joint tuberculosis as classified by Koenig,* and even of several of the anatomical varieties included in these. Koenig's classification is as follows:

I. Hydrops tuberculosus.

II. Fungus tuberculosus ("Gliedschwamm," granulating, fungoid inflammation of joints, tumor albus).

III. Cold abscess of joints.

Case 9 is a good example of the first class, which Koenig says is the form "relatively most infrequent and still least known to the surgeon," and of which he gives the first really complete clinical description. It is also, as far as I know, the first case of this kind in which the bacilli have been demonstrated. We have in it, further, the extremely instructive combination of a large bursal hygroma, containing rice bodies with a tubercular arthritis, the hygroma communicating with the joint. The recognition of these cases by Riedel, and recently by Koenig, has been referred to already.

Most of the remaining cases come under the head of

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* "Tuberculose der Knochen und Gelenke," Berlin, 1884, S. 51.

(II) fungus tuberculosus proper, by far the commonest form. Case 3, in which a large sequestrum occupied a cavity in the head of the humerus, is a beautiful example of that variety in which a circumscribed tubercular osteitis gives rise to a limited necrosis, immediately beneath the articular cartilage, and involves the joint secondarily. Koenig suggests, on account of the frequent wedge-shape of the sequestrum, that it is probably due to an embolic process. In such cases, as the sequestrum can be neither absorbed nor eliminated, it is obvious that operation offers, from the very first, the only prospect of cure. Unfortunately, it is very seldom that the state of affairs can be appreciated until the joint has been laid freely open. Several of the cases presented small cavities in the articular ends of the bones, filled with caseous material, indicating the probable origin of the disease in a circumscribed osteitis, causing the complete disintegration of the bone and involving the joint secondarily as before. Case 4, in which the astragalus, scaphoid, and cuboid, were all extensively diseased, is a good example of the infiltrated tubercle, where the disease rapidly involves the whole epiphysis or short bone, as the case may be, and produces complete disorganization of the neighboring joint. Such cases, which are, fortunately, not the most common, usually as in the above, demand amputation. Cases 6 and 8 were probably of synovial origin, as no tubercular osteitis could be found. Volkmann[*] declared this to be extremely rare, the disease beginning usually, and in children practically always ("so gut wie ausnahmslos"), in the bone. Further observations, especially by Koenig and by Müller,[†] under Koenig's direction, have shown that, although much the less common, the synovial origin is not so infrequent as Volkmann supposed, being, in fact, about twenty per cent. of all cases.

Finally, Case 2 is a good example of (III) cold abscess of the joints, or synovitis suppurativa tuberculosa, as Koenig prefers to call it, in which the interior of the capsule is lined with a tubercular membrane, and the joint distended with the characteristic tubercular pus.

(*To be continued.*)

GONORRHŒA IN THE FEMALE.

By ANDREW F. CURRIER, M. D.

(*Concluded from page 43.*)

Upon the opposite side of this interesting subject, Eklund, of Stockholm (Eklund [translation], "Phys. and Surg.," Ann Arbor, May, 1883, p. 193), while admitting that Neisser's gonococcus is, to a certain extent, indicative of gonorrhœa, complicates the matter by maintaining that, in order to prove the case, there must also be present two forms of spores, which were discovered and described by him under the names *Ediophyton dictyades α* and *β*. He also thinks that the gonococcus is similar to if not identical with a body which is found in cases of acute and chronic ulcer of the lungs, intestines, and mouth. Sternberg (Sternberg, "Med. News," 1883, xlii, pp. 67, 96, 323) admits the constant presence of an accidental parasitic micro-organism in gonorrhœal pus, but he denies that it has anything to do with the virulence of the fluid. His experiments with culture-fluids were all unsuccessful as regards the production of gonorrhœa. He regards the *gonococcus* as identical with the *Micrococcus ureæ* of Cohn. From the foregoing, the conclusion is reasonable that there is a factor in the production of gonorrhœa, whether in the male or the female, which was entirely unknown in the days when the writings of Ricord and his followers upon this subject were supreme in their influence. (See Ricord, "Gaz. des hôp.," 1846, "De la blennorrhagie chez les femmes.") Whether this new doctrine is to be displaced in the future it is not safe to predict. There is no doubt but that, with the liability to prejudgment which influences the minds of most men in the investigation of a disputed question like this, some modifications may be expected.

Leaving now the question of the *essential* cause of the disease, all are agreed that there must be contact of the infecting substance with the genital mucous membrane in order to its production. The disease may limit itself to a circumscribed area of the genital tract, or it may be diffuse, with or without serious complications. That acute observer, Matthews Duncan, reports a case in which it was most obvious in the duct of the left gland of Duverney, remaining intractable for five years (Duncan, "Lancet," 1877, i, p. 313). A quotation has already been made which shows the frequency with which one or both of these glands may be involved (von Hagemann, *loc. cit.*). The rich glandular structure at the orifice of the urethra would suggest its frequent involvement, but von Hagemann alone, so far as my observation goes, asserts such a condition in fact. My own limited experience leads me to coincide rather with those writers who think that it is neither a necessary nor a common feature of the disease. The vagina is the region *par éminence* in which it prevails most commonly. The clinical features as they are commonly seen have already been depicted. Gallard says there is no appreciable difference between simple and virulent vaginitis; that there is yellowish-green pus in each, with redness and inflammation, and that they are to be differentiated by a study of their origin, results, and affiliations. He has observed in the virulent form a slight elevation of the mucous membrane which is due to inflammation of the papillæ (Gallard, *loc. cit.*). Thomas says that gonorrhœal inflammation of the vagina is not distinguishable from that which is produced by chromic acid (Thomas, *op. cit.*). Noeggerath differentiates a gonorrhœal from a leucorrhœal discharge in the following manner: If the upper part of the vagina is filled with a copious, glairy, greenish-yellow glue which adheres to the cervix tenaciously when its removal is attempted, gonorrhœa is present. When the discharge is scanty, pellucid, white, or straw-colored, it may be gonorrhœa (1) when there is also a red, eroded, narrow rim around the os; (2) when there are signs of present or past pelvic peritonitis; (3) when there is catarrh of all or a part of the vulva—e. g., from the periurethral or vulvo-vaginal glands, with condylomata in the fourchette, or around the urethral orifice; (4) when the discharge is incurable; (5) when it comes in an otherwise healthy woman just after marriage, and no other morbific cause is discoverable (Noeggerath, "Latent Gonorrhœa," etc.). Other writers lay special stress upon the relaxed condition of the mucous membrane in the posterior fornix vaginæ, which, from its comparative inaccessibility (excepting with the use of Sims's speculum or one of its modifications), furnishes a convenient *nidus* for a protracted duration of the disease. My own experience fully confirms the importance of this statement. Any one who has had much experience in the treatment of diseases of women must have noticed the great difficulty in reaching effectively this portion of the vagina, especially when the treatment in the form of douches is left in the patient's hands. With the vaginal affection is often associated inflammation of the *mucosa* of the cervix. Usually it is secondary to the former, but Rémy (Gaz. méd. de Paris," 1879, p. 5, "Blennorrhagie de l'utérus [métrite muqueuse blennorrhagique"]) quotes Hardy ("Gaz. des hôp.," 1846, p. 426), who says that it may be primary, the infectious material from the penis being absorbed directly by the cervix. According to Rémy, the first autopsy upon a fatal case of this affection was made by Mercier in 1846 (Mercier, "Gaz. des hôp.," 1846, p. 432), who studied carefully and described completely its pathological anatomy. Grünewaldt, of St. Petersburg, also gave an elaborate description of it in 1878. Gonorrhœa of the rectum is one of the less common forms. It need not imply sodomy, for it is quite conceivable that the fluid containing the virus might infect the rectum by another manner, especially in the case of prostitutes, or any one of unclean habits. The extension of the disease from the cervical canal, beyond the barrier of the internal *os*, forms one of the most unpleasant chapters in its history. Unfortunately, the pathological anatomy of this subject, from a recent standpoint, has not been investigated in a sufficiently large number of autopsies, or, if it has, I have been unable to find such an account. The investigations of Mercier, already referred to, were made in 1846. He found evidences of inflammation in the Fallopian tubes and peritonæum. Ricord believes that the ovaries and tubes may all be affected by the poison, and states that in such cases the pain is intense. Rémy (*loc. cit.*) disagrees with Ricord as to the involvement of the ovaries, unless peritonitis has occurred. His (Rémy's) opportunities for investigation at the Lourcine Hospital, in Paris, have formed the foundation for some excellent observations upon the disease. He mentions the curious fact (Rémy, "Gaz. méd. de Paris," 1879, p. 55) that one often finds in the bodies of prostitutes the tubes swollen in some places, and their canal obliterated in others, displaced and adherent to the posterior surface of the uterus. He had observed three such cases, and quotes Morgagni, Walter, and Bernutz, who had made similar observations. The same author, with Hennig (*loc. cit.*) and Noeggerath ("Latent Gonorrhœa," etc.), dwells upon the inflammation which the disease produces in the body of the uterus. Hennig details several fatal cases from the involvement of the body of the uterus and the tubes. Noeggerath concludes that when latent gonorrhœa passes into the apparent state it is manifested by acute recurrent perimetritis or oöphoritis, or as a catarrh of certain sections of the genital organs.

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[*] "Samml. klin. Vorträge," 168, 169, S. 1400.

[†] "Tuberculose der Knochen und Gelenke," 1884, S. 66.

In addition to the local and constitutional disturbances which are produced in varying intensity by this disease, its great importance is to be seen in the disturbance of two most important functions or processes, menstruation and reproduction. The former is attended with great pain, which may continue, according to Parent-Duchatelet (quoted by Rémy, *loc. cit.*), after the vaginal trouble has disappeared. This is especially the case with prostitutes, and the *colic of prostitutes* (colica scortorum, Hurenkolik) is often susceptible of this explanation. Metrorrhagia, or menorrhagia, has also been observed in connection with it. Noeggerath's paper, already quoted, was largely occupied in demonstrating the sterility which was caused by this disease. He concludes that ninety per cent. of sterile married women have husbands who have suffered, at some time in their life, with gonorrhœa. It was this extreme statement, doubtless, more than any other in his paper, which caused its unfavorable reception and criticism by the profession. Such a revolutionary proposition can not be based upon the experience of any one man, however large his experience or keen his reasoning faculties. Mercier showed that the condition of the uterus was such, when invaded by gonorrhœal inflammation, that sterility became a necessary consequence. Gallard thinks that the disease is frequently the cause of abortion. How and why sterility and abortion attend it can not now be discussed. I would respectfully refer to the authors mentioned for their arguments upon the subject, and also to Fritsch (*op. cit.*) for the opposite view of the case. In addition to the complications already mentioned, I find one author (J. Morris, "Va. Med. Monthly," v, p. 373, "Gonorrhœa in Women") who mentions the occurrence of gonorrhœal rheumatism, but he mentions no cases which he has observed. The exceedingly harmful effect of the gonorrhœal poison upon the eyes is sufficiently well-known, as well as the fact that the pus of gonorrhœal ophthalmia contains a micrococcus which is identical with that which is obtained from the gonorrhœal discharges of the vagina. (This fact was also mentioned earlier in this paper.)

In view of what has been said, it could hardly be expected that anything exact or definite could be stated in regard to the prognosis in this disease. Those who, like Fritsch, consider it a mild affection, look with apparent contempt upon the severe views of Noeggerath and his followers, who see in it an incurable and often fatal one. The true position upon this question is doubtless in the mean. Gonorrhœa in a woman may be slight, the subject of it may offer successful resistance, in which case proper treatment may cure it in a few days. On the other hand, with individuals who possess opposite characteristics to those which have been mentioned, the most energetic and wise treatment may fail, at least for a long time, in eradicating it. Of this I am convinced, from observation and reflection, namely, that the disease does not run any specified course, and can not be said to be limited to any particular period of duration. It would, therefore, seem to me ill-advised to say, with certain standard authors upon gonorrhœa in men, that a mistake in diagnosis must have been made if it should appear to be cured within a very brief period. Before proceeding to the question of treatment, which is altogether the most important part of the subject, it may be proper to say a word in regard to the so-called *infantile leucorrhœa*, which Otis considers identical with gonorrhœa. The phrase is a mistaken and misleading one, for it evidently refers to a genital discharge of a purulent or semi-purulent character during any period of childhood. As used by the author in question (Otis, *op. cit.*, p. 264), the fact is either overlooked, or else not brought prominently forward, that children may have true gonorrhœa, as it is seen in adults, by sleeping with infected parents or friends, and sometimes, alas! by sexual contact. Vogel ("Lehrbuch der Kinderkr.," 1880, p. 428) believes that it not infrequently comes or may come from the latter source, though the child may persistently deny any knowledge as to its origin. The following case will illustrate the most palpable features of the disease:

Case IV.—Leah J., eight years of age, came to the clinic in September, 1883, with a purulent discharge from the genital region, excoriation of the surrounding integument, and frequent and painful urination. She slept with her mother, who had been for some weeks under treatment for a condition which was thought to be gonorrhœa, but concerning which the chain of evidence was not complete. No history of sexual contact could be obtained from the child or her mother. She was dosed upon the supposition that the difficulty originated in the rectum or some other portion of the alimentary canal, but no change in the objectionable phenomena resulted. Rigid treatment was then adopted upon the vulva, then upon the urethra and bladder, and finally upon the vagina (through a small, central normal opening in the hymen). The difficulty has disappeared from time to time, and as often recurs. The means which have been adopted have been various, and both the parasitic and non-parasitic theories of treatment have been tried.

The conclusions which I have reached upon this subject are that leucorrhœa and gonorrhœa in children are separate conditions, and that females of all ages are susceptible to both.

As to treatment, *non unum, sed multa* may be said both as to the theories and as to the means which may be employed. First in importance is rest; that is, freedom from care and labor and an abundance of sleep; and, in view of the serious significance which may attach to the disease, the successful physician will be the one who can treat his cases in a well-appointed hospital, or, if at home, in such a one as can furnish intelligent assistance. Dr. Emmet long ago laid down the *dictum* that success in gynæcology meant attention to details, and this is eminently true in respect to the treatment of gonorrhœa. The same rules in regard to diet which are so necessary in the treatment of gonorrhœa in men are equally applicable in the treatment of its counterpart in the female—namely, that it should be light and unirritating, with special reference to the obviation of that bane of womankind — constipation. Plenty of water should be drank, including alkalines, if the bladder or urethra is involved. The therapeutic agent upon which I would place the greatest reliance is heat, in the form of vaginal douches (or dry heat, if it were practicable), *properly given.* If improperly given, they will produce little else but annoyance, and, unfortunately, that is the way in which they are too frequently given. One can not be too specific upon a point of such great importance. Two or three times a day, not oftener (I do not agree with Dr. Emmet in his belief that a constant [i. e., for hours at a time] current of hot water will relieve pelvic inflammation more effectually than an interrupted one; some regard must be paid to the *tone* of the vaginal and contiguous tissues; a water-logged condition is not desirable), the patient should lie upon her back, a nozzle of sufficient length should be introduced into the posterior *fornix vaginæ*, and for ten minutes the vagina should be filled with water as hot as can be borne. I believe it is immaterial whether the principle of the fountain-syringe or that of the Davidson (i. e., a continuous current on the one hand, or an interrupted one on the other) be used, the two main ends to be attained being dilatation and astringency. Of other astringent agents there is a long list to choose from. Almost every writer upon this disease recommends nitrate of silver. Bumstead and Taylor (*op. cit.*, ed. 1883) advise the use of the solid stick, which is to be carried into the canal of the body of the uterus in cases in which that organ is involved. It is also stated that no harm will result if a portion of it be allowed to remain there. I would respectfully submit that such heroic use of this valuable agent does not now meet with the favor which it had a generation ago, particularly among British gynæcologists. I have many times used a sixty-grains-to-the-ounce solution, and often with very satisfying results. With the weak solutions no apparent effect is produced, and this is in striking contrast with the effect of weak solutions in gonorrhœa in men. I have seen the strong solution used by a distinguished authority in the acute stage of a case of undoubted gonorrhœa in which the cervix was mainly involved, and have used it in that stage myself with excellent effect. The most recent utterances upon this question (the use of nitrate of silver) are reported in the "American Journal of Obstetrics" for April, 1884 (*q. v.*), from the transactions of the German Gynæcological Society, in which Fränkel and others have found its use less effective than that of solutions of corrosive sublimate. The strong tincture of iodine may be mentioned as a very useful local application, but its excellent properties are too well known by gynæcologists to require further mention. The fluid extract of eucalyptus upon a vaginal tampon is alike grateful to the patient and astringent and antiseptic in its action. Atthill recommends local (vaginal) bleeding, and the use of glycerin. Rémy, at the Lourcine, used tampons of alum cotton and applications of chloral. He is frank enough to say that many patients returned repeatedly, or went away uncured. Zeissl recommends injections of permanganate of potassium in the proportion of two centigrammes to one hundred grammes of water. Diday has followed Zeissl's directions, and has even increased the quantity of the potash salt to twenty centigrammes. He did not obtain the positive results which were anticipated. Vidal recommends gurjun balsam as a vaginal application. With it he has often cured cases in three or four days, but in other cases it was ineffective. Injections and applications of carbolic-acid solutions of varying strengths, of boric and salicylic acids, may be added to those already mentioned, all of which have found more or less enthusiastic advocates. To those who accept unreservedly the parasitic theory of gonorrhœa, the treatment *par excellence* consists in vaginal injections of a 1-to-2,000 solution of the bichloride of mercury. Among such may be numbered Eschbaum, Leistikow, and others. In Keyser's experience it cured the discharge, in some cases, in forty-eight hours. I have used the solution in that strength, and also in the 1-to-1,000 ratio, the method of application being as follows: If there is a discharge from the cervical canal, I introduce some of the bichloride solution, or of the strong tincture of iodine, into it upon an applicator, the absorbent cotton which is wound around it being charged to saturation. The vagina is then carefully tamponed, either with wicking (after Dr. Frank Foster's method), or with pledgets of *non-absorbent* cotton, also charged to saturation with the bichloride solution. The non-absorbent cotton is far better than the absorbent, as the latter becomes too heavy and hard to be worn with comfort. After twenty-four hours the tampon should be removed, and for the next twenty-four hours reliance should be placed upon the vaginal douches of hot water, which may be plain, or may contain the bichloride in the strength of 1 to 1,000. Then the tampon is to be repeated. With my present light upon the subject, I do not favor the use of the tampon oftener than three times a week. The use of bichloride injections *by patients* has not proved so satisfactory in my experience as I had hoped. I can recall several cases in which the patients realized and admitted their condition, and were very anxious to be cured, but, in spite of as careful instructions as could be given, the diseased conditions were not controlled. Solutions of salts of iron, lead, zinc, and copper may be added to the foregoing list of astringent applications, and will be found useful in appropriate cases. In regard to internal medication, I have seen no very brilliant results. I have given the mixture of cubebs and copaiba known in this city as *Lafayette mixture*, both when the urethra was involved and when it was not, and patients have remarked that they felt better while using it, but no positive and permanent result from its use has, as yet, occurred to me. Chouppe speaks highly of gurjun balsam internally for cases in which the urethra is involved (Chouppe, "Gaz. hebdom.," 2^me^ s., 1879, p. 662).

Some of the conclusions which may reasonably be deduced from the foregoing review of this subject are the following:

1. Gonorrhœa in the female deserves more thorough investigation than it has yet received, especially in the light of recently established facts.

2. The diagnosis of the disease, with improved methods of investigation, chief among which are Sims's speculum and the microscope, is not so difficult as it has hitherto been considered, even in the absence of direct information of actual exposure to gonorrhœal infection.

3. There is a difference between the characteristic discharge of true gonorrhœa, as to both its nature and its effects, and other mucoid discharges from the female genital tract. As a corollary to the foregoing statement, while investigators differ as to the significance of the micrococcus of gonorrhœa, its constant presence in the discharges is not denied.

4. Gonorrhœa in the female is identical with gonorrhœa in the male. The fact of individual peculiarities and susceptibilities is not questioned.

5. A series of careful investigations upon well-defined cases, in a hospital or other place in which the changes and developments can be accurately noted, is desirable. No line of treatment can be recommended as unfailing and entirely satisfactory until the results of such investigations are known.

Note.—Since the foregoing was written, an article by E. Bumm has appeared in the "Archiv für Gynaekologie," Band xxxiii, Heft 3, entitled "Contribution to the Subject of Gonorrhœa of the Female Genital Organs" ("Beitrag zur Kenntniss der Gonorrhoe der weiblichen Genitalien"). This article is important as a recent confirmation, after careful study and experimentation, of the doctrine that gonorrhœa is a bacterial disease. Neisser and Bockhart's investigations (to which allusion is made in the foregoing) are emphasized, and the pathology of the disease, from the germ-theory standpoint, is developed in a very interesting manner. As to the clinical features, no different opinions are expressed in that article from those which I have endeavored to set forth in mine.

38 West Thirty-sixth Street.

A STUDY OF ASIATIC CHOLERA DURING THE EPIDEMIC OF 1866.

By CHARLES A. LEALE, M.D.,

PRESIDENT OF THE NEW YORK COUNTY MEDICAL ASSOCIATION.

(*Continued from page 8.*)

Does Cholera attack a Person suffering from other Diseases?—I have never seen Asiatic cholera attack a person in the confirmed stages of either cancer or tubercular consumption. I have never known a chronic epileptic to get cholera, nor have I ever seen it simultaneously occur with any of the acute infectious diseases.

The use of tobacco does not appear, as some have asserted, to predispose a person to an attack of cholera. A good rule to observe during any epidemic: Let him who chews and smokes tobacco, and also takes spirits, *temperately*, continue in his usual way, simply avoiding excess.

To the student of medicine, before the working of our Metropolitan Health Board, few places offered greater advantages than New York to observe the course of an epidemic. Immediately after our great civil war the island was inundated with several hundreds of thousands of recent arrivals from all parts of the United States and Europe seeking to establish a new home.

Swallowing of the Cholera Bacilli by Animals and Birds.—During the epidemic of Asiatic cholera in the year 1866, in New York city, I had abundant opportunities to observe that cholera did not affect dogs, cats, goats, pigs, cows, chickens, geese, pigeons, and singing-birds in cages, after they had swallowed water and food containing the dejections from human beings vomiting and purging while in the most malignant stage of cholera. It was no uncommon sight to see a goat, dog, or chicken walk into the room of a shanty where lay on the floor the victim of Asiatic cholera, and, before opportunity occurred for some one to drive the intruder away, witness it eat from the floor where it had been accustomed to pick up nourishment, and again do the same, and quickly swallow articles covered with the recent discharges and vomit of a patient in the different stages of cholera.

I have subsequently looked to see if any ill effects were thereby produced, as I knew the milk from these goats and cows, the eggs and flesh of the chickens, geese, and pigs to be used as articles of diet. Yet in no instance did I observe any bad effect, although I watched closely for many subsequent weeks, and the following summer, the result of my observation being that the bacillus of Asiatic cholera only found a fertile soil in the alimentary canal of human beings, confirming the opinion that Asiatic cholera is due to a special poison which can alone produce the disease.

It is estimated that during the years of our last war the United States army had in the field an aggregate of 2,335,942 men; or that the mean strength of the armies was about 783,906 men. These troops were in camp, constantly exposed to all the vicissitudes of the campaigns, or were in hospital, where, in spite of the lavish precautions which were adopted, not infrequently all the disadvantages of over-crowding and deficient food were present. Vast numbers of men were transported to and from the scene of active operations upon steam transports. A very small percentage of the troops were in permanent fortifications. Vast prison-pens were formed, in which over-crowding, bad ventilation, indifferent police, and unsuitable food were present to co-operate with local malarial influences upon the unfortunate prisoners.

The record of the medical history of the war demonstrates that there occurred in the army of the United States, of diseases of malarial origin, 1,468,410 cases, with 46,310 deaths; of intestinal diseases, 1,765,501 cases, with 44,863 deaths.

At the close of the war I was placed on duty as Acting Surgeon-in-Chief of the Northern Defenses of Washington, with a circuit of about twenty miles to inspect once weekly—each of the fortifications, hospitals, barracks, and other army quarters. During the autumn and early winter of 1866 I performed regularly this duty, which necessitated close contact with several old hospital buildings and barracks that had been continuously crowded by the sick and wounded during the preceding four years. I was placed on this duty at a season of the year when the prevailing miasmatic fevers were known to be the most fatal, and nothing, probably, could have rendered the usual endemic influences more intense than the tearing down of old hospital buildings, furniture and bedding saturated with hospital gangrene and all known septic poisons, to the frequently recurring heavy rains and subsequent direct exposure to the sun's rays. Yet even here no sign of malignant cholera appeared, but we did have that low form of typho-malarial or septic fever.

On the 14th of March, 1864, I admitted to my ward, No. 1 Post Hospital, United States Army General Hospital, Elmira, New York, Benajah Wilmot, aged seventeen years, who in eight days died from the effects of a very severe attack of epidemic cerebro-spinal meningitis. I was then directed by the post surgeon to investigate the cause of the disease, and to inspect the barracks from which Wilmot was removed, and found nearly one thousand new recruits had been lodged in a warehouse near the city, where the hurried temporary arrangements prevented the usual sanitary precautions. I was also temporarily on duty in the prisoners' camp, in which ten thousand sick and dejected Southerners were kept. Subsequently had charge of the wards containing all the cases of hospital gangrene, and in 1865, while on duty in Washington, saw large numbers of cases of typhoid and malarial fevers, and treated many of the returning sick soldiers from the Andersonville and Libby prisons. I examined many of our soldiers for their final discharge from the army. Yet in no instance did I see one with Asiatic cholera, or during an extensive practice in New York city for nineteen years, except during the epidemic of 1866.

Prevention of Cholera in America.—The forcible language used by Dr. L. A. Sayre, in opening the discussion at the American Medical Association, May 4, 1866, is as valuable to-day as when spoken.

Dr. Sayre thought that the Government was responsible for permitting the disease to get into the land. A rigid, proper quarantine, universally adopted by the general Government, in combination with the British Provinces, would, in his opinion, prevent it.

In the report to Parliament of Mr. John Simon, the chief medical officer of the English Privy Council, Mr. Simon says: "Practically, the business of resisting cholera on any large scale resolves itself into aims of prevention, and, in contrast with the powerlessness of curative medicine, the preventive power which we possess is among the happiest possessions of science. . . . That which for public use in this country I believe to be without a shadow of doubt, now as for long past years, the all-important principle of cholera prevention, is the principle that, for us, cholera derives all epidemic destructiveness from filth, and especially from excremental uncleanliness." *

Adjuncts to Quarantine.—Dr. Marsden, † of Quebec, urges the necessity of guarding against any communication between the infected and the well, and that equanimity, cleanliness, and temperance were three great adjuncts to quarantine.

Inspector-General Dr. A. Fauvel, ‡ of Paris, believes "that, when cholera was imported from the East, no measures could stay the invading march of the epidemic where conditions favorable to its development were found. Hence the uselessness of such measures as *cordons sanitaires* between several European States. But still it had been recognized in France that it was necessary to make an exception with regard to maritime relations between the infected and healthy countries, especially where these countries were wide apart, for experience had taught that an infected ship could import cholera into a port situated at a distance, as would forbid importation by land. Thus, when, in 1873, infected vessels imported cholera from Naples into the Lazaret at Marseilles, the town remained unaffected, although communication by land with Italy was entirely free."

Regions where the soil is polluted and well-known miasmatic places—as, for instance, the delta of the Mississippi

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* "Annual Report of Met. Board of Health," 1866, p. 280.

† "Transac. Amer. Med. Assoc.," 1866.

‡ "Transactions of the London International Congress," vol. iv.

River—do not originate cholera, and literature fails to give a single instance of an epidemic of malignant cholera ever having originated *de novo* in America.

"In the early spring of 1861 the American civil war was inaugurated, and the United States hurriedly converted into a vast military encampment. In all the cities that had been favorite haunts of cholera in former years, from the Penobscot to the Rio Grande, and from the Missouri to the Atlantic Ocean, troops were collected, and vast armies were concentrated in the worst malarial regions of the United States, the valleys of the Potomac, Ohio, and Mississippi Rivers. In the very region where it is maintained that every epidemic of Asiatic cholera that has visited the United States from 1832 to 1873 originated '*de novo*,' these immense bodies of men were congregated, and the exceeding mortalities occurred. Yet, during all those years of bloodshed and suffering, not one case of epidemic cholera occurred. Why? Because there was none of the specific poison of cholera, which is alone cholera, from which the disease might be produced." * These conditions of soil pollution with the nervous and physical depression, always present among our troops, would have made a very fertile soil for the spread of cholera had it been transplanted there. The history of an epidemic of cholera in Russia fully demonstrates this, as there they had the culture medium ready when the germs of the disease were left. Dr. Pettenkofer † tells us "that the ground water is the most constant and essential of all the physical agencies that promote the propagation of cholera, after the germs of infection have been introduced."

The sanitary engineer can do much to render the inhabitants healthy, and great care must be observed in the healthfulness of homes. Abundant observations in New York city convince us that to breathe deleterious air during sleeping hours, or during periods of inactivity, are most dangerous. Some time ago, while driving up the avenue, I saw a man emerging from one of the sewer man-holes. I went to him and asked how long he had worked in the sewers. He responded, Over twenty years; that nearly every day of the year he had to go and inspect some part, and, of course, oftentimes in the most disgusting part of the city. Yet he appeared perfectly well, and said that he never knew what sickness was. This man lived in a healthful home, and slept in a well-ventilated room.

Another case, directly the opposite: A man, while away from his home, did everything possible to promote his comfort and health; bought an expensive old house in this city, and wished to have the cellar improved. He superintended the workmen; they were kept at hard work while he sat on a chair to watch them; they opened a defective drain, which emitted a very offensive smell; he sickened, and in a few minutes was in convulsions from which he never recovered; the workmen escaped without apparently receiving any bad results. This occurred at the time that Dr. Austin Flint was investigating the theory that pneumonia was an acute infectious disease. Dr. Flint kindly saw this patient with me a few moments before his death.

Dr. F. A. Burrall,* in studying the spread of cholera, states that "the general testimony as to the chosen haunts of cholera is quite unanimous. It is in low, dark, damp, overcrowded dwellings, and among the ill-fed, badly clothed, filthy, and dissipated, that this disease makes the greatest ravages."

One of the most valuable contributions made to the science of medicine in America was by Dr. Henry I. Bowditch, of Boston, which was originally communicated in a letter by Dr. Bowditch, sent to the secretary of the International Medical Congress, Paris, 1867: †

"1. That phthisis is very unequally distributed in New England.

"2. That there are some places which enjoy a very great exemption, if not quite as much exemption, from its ravages as any portion of the globe can claim.

"3. That there are some spots, nay, even particular houses, which are frightfully subject to it.

"4. That there is a cause governing this unequal distribution of the disease; a law not recognized before my investigation, and still practically ignored by the majority of human beings, which, however, is one of the main causes, if not the sole cause, of this *unequal* distribution in New England, and possibly elsewhere.

"5. That this cause is intimately connected with and dependent on moisture of the soil on or near which stand the towns, villages, or houses in which consumption prevails.

"That this law of soil-moisture is a cause of consumption certainly in New England, and possibly in other parts of the globe, is proved, in the paper herewith presented, by the following data."

These observations of Dr. Bowditch's are the result of years of close study and tabulated statistics, yet they were communicated to the French International Congress, and did not even receive a passing notice. We who have confirmed his conclusions can truly testify that they ought to be engraved *on* the memories of all members of our profession.

I can bring forward scores of illustrations in this and in our neighboring States where families of the highest intelligence, the greatest culture, and with abundant means, have, in consequence of unhealthful dwellings, been completely swept out of existence. It has been a fact, receiving careful consideration, that there are many places in this country where Asiatic cholera has never appeared, notwithstanding that, in all the surrounding country, deaths have occurred during every epidemic visitation of cholera to this continent. Why are these places thus exempt?

Sanitary science alone can answer.

Cholera does not spread in Healthy Houses.—Dr. John C. Peters tells us that in the 4,203 affected houses in the

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* Part II, "A History of the Travels of Asiatic Cholera in North America." Ely McClellan, M. D., United States Army, in the work on "Cholera Epidemic of 1873 in the United States." Washington: Government Printing Office, 1875, p. 659.

† "Met. Board of Health Report," 1866, p. 277.

* Burrall on "Cholera."

† "Consumption in New England and Elsewhere, or Soil-Moisture one of its Chief Causes," by Henry I. Bowditch, President of the Suffolk District Medical Society, Professor of Clinical Medicine in Harvard University, Member of the Society of Medical Observation at Paris.

Berlin epidemics of 1866 and 1873, as many as 2,277 had only one case, proving that cholera has but little inclination to spread in more than half of all the attacks. There were 2 cases in 895 houses, showing that the tendency to produce two cases is less than twice as small as to induce one case.

On the 14th of August, 1866, Dr. Howard, residing at 263 West Fifty-fourth Street, sent for me in great haste in consequence of a violent attack of vomiting, purging, and severe cramps in the extremities, which was recognized as an attack of Asiatic cholera, as he had been exposed to the disease. I gave him a tablespoonful of powdered mustard, mixed with two quarts of warm water and a teaspoonful of common kitchen salt. This he drank, a pint at a time, and soon vomited. After taking the four draughts, I gave a teaspoonful of a mixture composed of tincture of opium, spirits of camphor, chloroform, and tincture of cardamom every half-hour; applied a large mustard poultice over the entire abdomen, had him placed comfortably in bed, with bottles of hot water to his feet, and perfect quiet enjoined. His dejections were immediately disinfected and thrown down the sewer, and his diet was restricted to the smallest amount necessary to sustain life. In three days he was convalescent, and no other case occurred in the house.

Dr. F. de Chaumont,* Netley, states that the sanitary department in India is in the hands of men who disbelieve in personal communication, or communication through water, of cholera. He, however, thinks that it is "impossible to look at the experience of India itself without coming to the conclusion that the communicability of cholera through water is possible."

Atmospheric changes and causes, by some, have been stated to produce cholera. We can well ask the question, Have not the opinions been conceived after taking a result for a cause? for we know that the air is rendered very foul where cholera patients are; the frequent vomitings and purgings easily explain this.

Dr. George M. Sternberg, U. S. A., in his report on epidemic cholera at Fort Harker, Kansas, during the summer of 1867, gives us a graphic account of the peculiar change of the atmosphere preceding the outbreak of the disease; that the air there is usually so pure and dry that a piece of meat, cut thin, will dry when hung in the air without becoming tainted, but the reverse was the case that year; that there had been an unusual number of flies and mosquitoes, houses being infected with a large fly which differed from the common house-fly; that during the prevalence of the epidemic the nights were cool; more occurred during the coldest nights than at any other time, and that after a thunder-storm the number of cases decreased in a marked degree.†

The presence of a great abundance of flies, I think may be explained as readily as the spread of epidemics. The flies, having a most prolific soil on which to propagate, increase with wonderful rapidity in a few hours. Any one who has watched the making of cider from apples in this country has seen flies increased by thousands in a few hours.

A telegram, August 5, 1884, stated that on August 4th the atmosphere was so impure in Marseilles that the swallows which migrated at the outbreak of the pestilence had not yet returned, and that there were no sparrows at all in the city. This migration of birds had made a deep impression upon the public mind, and had led to a demand for a purification.

I think the migration of birds from an infected district where cholera exists is to be explained, not on account of the presence of a diseased atmosphere, but rather to the abundance of poisonous disinfecting gases generated in the cholera districts, and to the numerous bonfires, filling the air with smoke, thereby rendering the air unfit for the birds to breathe.

In regard to the abundance of flies found in infected houses, I believe that they are acting a beneficial part much more as scavengers than as the means of spreading the disease. But, for caution, I would refrain from eating anything that possibly could have been contaminated by their polluted bodies or feet. Caution here would be the better part of valor.

I firmly believe in the absolute necessity of a rigid quarantine as the only method to prevent cholera in America, and that the entire profession ought to exert its widespread influence to aid public officials in the discharge of their duties.

Long Detention at Quarantine is not necessary.—Much complaint has been made against officers of quarantine for long delays; but experience has taught that even an infected vessel may be rendered safe, and that the clothing of those suspected from diseased places may also be reasonably freed from all sources of danger in a few minutes. The old theory of the necessity of one or more weeks' detention in quarantine is a notion long ago exploded by the aid of modern chemistry. In no instance has this been more fully demonstrated than when Dr. R. Ogden Doremus, in a few hours, so completely purified an old infected hospital, and on the following day Dr. James R. Wood commenced a series of observations after primary operations by the open method, with as good results as have ever been attained by any surgeon.

Dr. John S. Billings,* Surgeon U. S. Army, in his paper on "The Experience of the United States in Recent Years with regard to Asiatic Cholera," states that "the most important means of preventing cholera in the United States are:

"1. Those which tend to restrict its spread in or from India.

"2. Those which might be employed at those European ports from which emigration to America chiefly occurs.

"3. Proper systems of quarantine at American ports, which should include among other things the thorough aëration, cleansing, and disinfection of all probable fomites."

Dr. H. W. Acland,† of Oxford, states that "each country is able to know with precision the existence of a disease, and each country ought to be able to find, as far as science permits, the local causes of this disease, and second the best means of prophylaxis. But the cause and the prophylaxis may vary in different countries, and also, as in France and the United States, in the borders of the same country."

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* "Transactions of the London International Congress," vol. iv.

† "Circular No. 1, War Department, Surgeon-General's Office," Washington, June 10, 1868.

* "Transactions of the London International Congress," vol. iv.

† *Ibid.*

Surgeon-General Dr. John Murray,* of London, says that "now we know, from actual experience in India, that absolute protection is unattainable; but we also know that relative exemption has been secured by restrictive measures in the military stations and jails of India."

The danger to America of immigrants from infected ports, and the possibility of carrying germs of the disease in their unpacked clothing, probably never were more forcibly illustrated than in the following account given by Dr. Atlee, and is similar in many respects to that related by Dr. Alonzo Clark, where immigrants carried the disease to the far West in their clothing:

"Dr. Atlee, of Lancaster, Pa., records that a car-load of emigrants came from Philadelphia to Columbia, Pa. Two or three of these emigrants, who were ill of cholera, were put out on the platform at the railroad station. Some gentlemen, seeing them at the point of death, carried them to a shed and waited upon them. In forty-eight hours the emigrants and these gentlemen were dead, and the disease spread in the town." "Cholera Epidemic in 1873 in the United States," p. 637.

State Medicine and Epidemics.—The epidemic of Asiatic cholera in New York city in the year 1866 taught us one of the most important laws in State medicine, and most fortunate for our city and country at large was it that our Metropolitan Board of Health then had as its sanitary superintendent a gentleman so eminently qualified to fulfill his part. I refer to the late Colonel Edward Barry Dalton, M. D., United States Volunteers. Dr. Dalton, as many of us had received almost a death-warrant while serving our country in the fever-camps and pestilential hospitals of our army, had returned to New York city with vast executive experience, knowledge of hygiene, and military discipline, and organized the Board of Health when it was established under the new city charter.

I soon became familiar with the good results of Dr. Dalton's work, as, immediately on recognizing the disease, I personally resorted to disinfections and sulphur fumigations, and by these means only one case occurred under my observation at Fifty-second Street and Fifth Avenue, one at Fifty-eighth Street and Fifth Avenue, one at Seventieth Street and Bloomingdale Road, one at West Fifty-fourth Street, and one at West Fiftieth Street; but there was one locality where it really appeared to be indigenous—at the Crow houses on West Fifty-second Street. Here it recurred and recurred, notwithstanding my efforts to eradicate it, and battling day after day with new cases, being fresh outbreaks of the disease. I appealed to the Board of Health for a more thorough fumigation, or, if necessary, destruction of the premises by fire. Dr. Dalton, with his ambulance and trained assistants, quickly responded. I met him at the house, exhausted from overwork with the cholera patients. Dr. Dalton, with absolute official power, such as he so well knew how to exert, assumed control of the infected house, and soon generated immense volumes of chlorine gas, and burned all articles that he thought suspicions. He remained there personally to superintend the work, and so thoroughly did he accomplish his task that, although I could trace at least nineteen cases as having originated at this location, yet not a single case followed.

I then considered this such a triumph of the sanitary powers of chemistry, only equaled by the results obtained by Dr. R. Ogden Doremus on a cholera-ship and at Bellevue Hospital in stamping out zymotic diseases, that I made a full report of the same, and forwarded it, in August, 1866, to the Registrar of the Metropolitan Board of Health. For the great service Dr. Dalton rendered to New York city in 1866 his name deserves to be perpetually honored.

Illustrations that Cholera may affect those Guests of a House where Dysentery prevailed and not attack a Single Member of a Large Family.—The family lived on the principal avenue of a city through which the dead were daily transported to the cemetery. The scene was at the residence of my relations, and occurred during the epidemic of Asiatic cholera in 1854. The eldest son lay with gangrene of the bowels, following acute dysentery. He was nursed by his immediate relatives at the family mansion, a large stone, well-ventilated building, situated about one hundred and fifty feet from the avenue through which several victims of cholera were daily carried to the cemetery. Three adult visiting relatives took cholera at this house; the first was in collapse for two days, was unconscious for over a week, but convalesced; the second, her husband, while at the dining-table, complained of not feeling well, got up and attempted to walk away, but, before going one hundred feet to another part of the house, on the same floor, he fell against a window, falling partly through the glass, in a few moments was insensible, and, before the end of twenty-four hours, was dead.

The third, the grandmother, aged seventy years, came to visit the sick ones, remained only a short time, then returned to her home, a distance of fifteen miles. She had no sooner reached home than symptoms of malignant cholera appeared, and within forty-eight hours she was dead.

The immediate family, consisting of father, mother, six children, and servants, ate all their meals in this house, and slept there every night, yet not one of these ever became affected with cholera.

(*To be continued.*)

THE GALVANO-CAUTERY,

COMPARED WITH OTHER MEANS OF DESTROYING THE MUCOUS MEMBRANE OF THE NASAL AND PHARYNGEAL CAVITIES.*

By E. L. SHURLY, M. D.,
DETROIT, MICH.

The aim of the following remarks is to call attention, first, to the conditions necessitating the employment of the galvano-cautery, or agents of similar nature; second, the value of this agent compared with others of its class; and, third, its intelligent application.

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* "Transactions of the London International Congress," vol. iv.

* Read before the American Laryngological Association, May 14, 1884.

First, then, cases of nasal, naso-pharyngeal, and pharyngeal disease exhibiting hypertrophy of the mucous membrane, hyperplasia of the glandular tissue, neoplasms, or ulceration, require for successful local treatment the application of *some* destructive agent, either mechanical or chemical. This proposition is so generally conceded that no argument is needed. But, inasmuch as our fallibility and enthusiasm often conspire to defeat good judgment—thus leading to erroneous conclusions and acts—let us stop for a moment's reflection. Aside from the function of olfaction, the nasal passages are certainly a part of the respiratory apparatus—in fact, the vestibule of this apparatus. These bony canals are lined with tissues of special anatomical construction—in short, at the anterior part, very like the erectile tissues of other parts of the body. The physiological purpose is plain; no other arrangement could be so well adapted for warming the inspiratory current of air, and straining from it deleterious material. Yet I fear we often lose sight of this in our eagerness to find and relieve nasal stenosis. In the cold, damp atmosphere of our northern climate I can conceive of no reason why the nasal mucous membrane should not be *well filled with blood*, to act as a heating apparatus for this cold air to pass over, that the more important and delicate respiratory organs below may be protected. Hence the important point arises, When ought we to destroy this tissue, or a part of it, and thus replace the normal with an inelastic, almost non-vascular, connective tissue? Certainly not always when it is to *our view* swollen. I believe, so far as this is concerned, that we should *positively* discover whether the mucous membrane is only temporarily swollen from extra conditions of the atmosphere, or an unhealthy condition of the economy, or whether there is a *permanent hypertrophy* (hyperplasia) transcending the physiological limits and producing a *veritable* stenosis of the nasal passages incompatible with the healthy performance of the respiratory function, etc. If the nasal passages are of sufficient amplitude, even a *moderate* hypertrophy is preferable to a too roomy space lined with atrophied mucous membrane and connective tissue, provided the subjective symptoms of extra discharge, cough, etc., are not prominent. But if, on the other hand, there is a real hypertrophy of the glandular or mucous structures, compromising the space too much, or, by pressure on contiguous parts, giving rise to other local or general disturbances, then there is no question as to the proper use of cauterizing agents. However, I think, in *all cases*, no more of the mucous membrane ought to be destroyed than is absolutely necessary, for the reason that *cicatricial tissue* in the nasal cavities or pharynx does not subserve the purposes of nature, and, indeed, may lead to that worse and more incurable condition — atrophy and chronic laryngitis.

I frankly confess to having committed this error—of destroying too much mucous membrane—in some cases; and have been chagrined to find, after a time of complete respite from local trouble on the part of the patient, a progressive chronic pharyngo-laryngitis taking place.

With regard to neoplasms, or growths, their speedy extirpation—mechanically if large, or with caustics if small—is, of course, the proper rule of practice. Likewise, ulcerations should be thoroughly cauterized for the conservation of neighboring tissues.

Coming to our second point, let us, if you please, arrange the destructive agents under consideration into three classes, viz.: mechanical, chemical, and electrical.

Among the first the knife and scissors need not detain us, inasmuch as they have been very generally discarded, owing to their inability to meet the ends sought for, excepting in a few special cases. The forceps for either the nasal or naso-pharyngeal cavities merits the objection, so often urged, of imposing great pain upon the patient, besides—what seems to me important—tearing and destroying unnecessarily a large amount of tissue, thereby promoting, possibly, the subsequent disorders already mentioned.

In the case of tumors even, I think the forceps ought not to be frequently used. Regarding that very useful instrument, the wire snare, in my hands it has been far preferable to anything else for the removal of polypi. But for the removal of exuberant mucous membrane it has not served me well, because it has always been my ill-fortune either to fail in snaring the part I desired to seize, or, what is worse, to take away much that I ought to have left; this has been my experience even in the treatment of hypertrophy of the mucous membrane of the posterior ends of the turbinated bones. I have used either the original Jarvis's snare or Dr. Bosworth's; and possibly these results have been from want of skillful manipulation rather than any defect of the method or instruments.

The great objection to chemical agents, speaking of them as a whole, seems to be that, when properly and cautiously used, they fail in destroying *enough* of the tissue, or, in other words, do not destroy deep enough unless too frequently and too persistently applied, when such a reactionary irritation is produced as to be positively baneful as well as unbearable. Of course, I am considering these in their general aspect. There are conditions of pharyngeal disease in which the local application of chemical caustics is preferable.

The last class, electrical, comprises only the galvano-cautery, which, it will be easily seen, is my preference for general use in the conditions under consideration. I have been using this agent more or less during the last eight years, and I believe have had ample opportunity for studying its good and ill effects, as well as the difficulties of its manipulation. It seems to me its great merit over the other means mentioned consists in the precision with which one can touch at will just the offending tissues, at the same time regulating, with tolerable exactness, the extent of destruction; this, then, with proper manipulation, reduces the chances of doing mischief to a minimum—a very great desideratum, provided some of the foregoing conclusions are correct. Besides this, as you have all undoubtedly observed, after cauterization by *this means* there is a reaction in the surrounding structures more nearly comporting with normal vitality than after the use of any other similar agent, while its painlessness, it may be added, allows of much more time to do the desired work carefully. The danger of its use, so often urged, entirely vanishes when the proper instruments and ordinary skill in manipulation are brought into play.

In daily practice with the galvano-cautery there are not a few difficulties in the way, perhaps the principal of which is the trouble and care, as well as the uncertainty, of the batteries mostly in use; this, of course, is a serious objection, since a good steady stream of electricity, of strong electro-motive force, is absolutely necessary to obtain the proper result. I have used until lately the "Byrne battery," which has served tolerably well, excepting at times. I now use the common thermo-electric pile, similar to the one constructed by Dr. Cutter, which is immersed in a large glass cell when in action.

It consists of eight zinc and nine carbon plates, each seven by five inches, and bolted together. I have had attached to this a long-thread feed-screw, by which the elements can be immersed as gradually or as little as may be desired. Of course, this makes a very heavy and clumsy-looking instrument, but it has the advantages in its favor of being cheap, always ready with a very little trouble, and furnishing all the electro-motive power required.

In applying electrodes to the nasal passages from in front, I have found it much better to apply the *edge* to the mucous membrane, always commencing as far back as desired, and drawing steadily forward, thus making a line. If the broad surface is applied, there is danger of burning too much tissue on the surface with a strong stream, and with a weaker one of burning only the surface, which is of no use whatever, since the mucosa *must* be penetrated and the sub-mucosa cut in order to insure success.

When the naso-pharyngeal cavity is the subject of treatment, the soft palate should *always* be held forward for a cauterization of any considerable extent. In cases where such a rapid secretion of watery mucus is poured out as to cool the incandescent electrode before it can cut through the surface, a little pledget of absorbent cotton held for a moment or two upon the part will usually remedy the evil.

In the treatment of enlarged follicles of the pharynx I have found no application so efficient as the galvano-cautery.

In conclusion, I would again ask your attention to the following points, viz.: To injure or destroy as little of the mucous membrane as possible, and to be sure to cut through the surface as narrow a track as will suffice.

DISCUSSION.

Dr. Jarvis.—Out of justice to the method proposed by myself for the removal of hypertrophied tissue from these cavities some time ago—namely, the use of the needle and wire—I desire to make some remarks. So far from its being impossible to limit the amount of tissue to be removed by this means, I do not know of any other method by which the amount of tissue to be excised can be so accurately gauged. Only this morning I had an opportunity to demonstrate the utility of this plan in a case of hypertrophied tissue of the turbinated bone, and the removal, I believe, could not have been accomplished by any other method. The galvano-cautery certainly would not do it, and, from what I have witnessed of its effects in the hands of others, the amount of cicatricial contraction which it produces is much greater than that arising from the wire and needle. I have never seen cicatrization result from the use of the latter method in the anterior nares. I consider it of great importance, as pointed out by Dr. Shurly, that the amount of tissue to be removed should be definitely limited. I always make it a rule to leave as much of the turbinated tissue as possible, in order that the normal function of the membrane may be duly carried on.

Dr. Sajous.—I have used the snare a great deal, and have never yet had the so-called dry condition result. I have used the needle, and have found it also very serviceable, especially in those cases in which the hypertrophy of the anterior part of the nares is great, and in which the galvano-cautery can not produce a sufficiently well-marked effect without destroying too much surface. Not much pain attends the use of the needle, and it gives much better results than the cautery.

Dr. Roe.—In many respects I agree with Dr. Shurly concerning the galvano-cautery. It is an agent of great good in many cases, but I think it should also be used with great caution and in properly selected cases. In suitable cases no other method of treatment can take its place. For instance, in the treatment of hay fever the battery is the only means by which the desired result can be produced. It will relieve hyperæsthesia in cases in which there is no hypertrophy, simply by scarifying the tissues. The inflammation which follows its use produces exactly the desired result, while transfixion and removal of any hypertrophic tissue may not have the desired effect. In cases, however, in which there is hypertrophied tissue, I first remove it with the snare, and then employ the battery.

Dr. Shurly.—I believe I have confessed in my paper that my failure with the snare has not been so much the fault of the instrument as of a want of skill in its manipulation. I have tried its use, as Dr. Mackenzie has, in affections of the posterior end of the septum, and have found it unsuccessful. In skilled hands Jarvis's snare may be preferable, but I believe most of us can do better with the cautery in limiting the amount of tissue to be destroyed. Formerly when I used the snare I always destroyed more tissue than I desired, and I have therefore abandoned it, except in the cases of neoplasms to which reference has been made.

ARTHROPATHIA PROGRESSIVA.

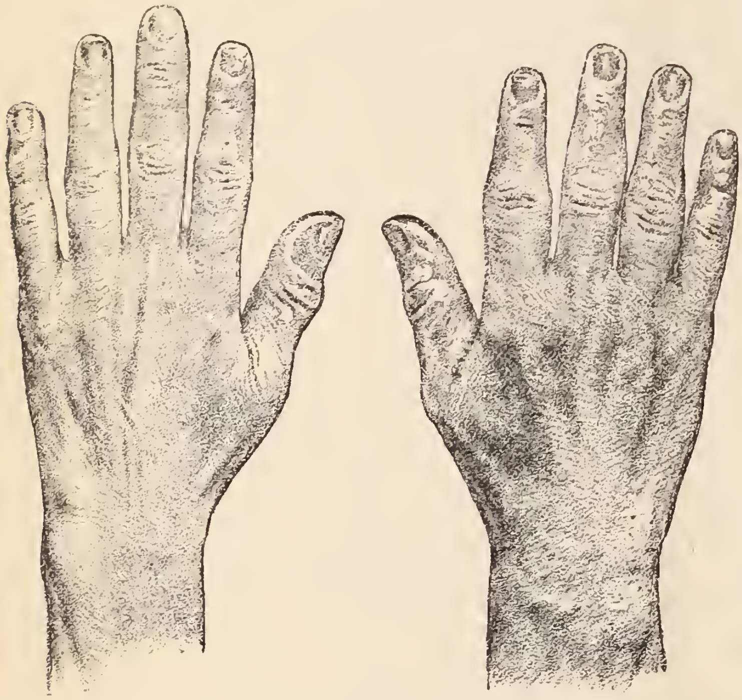
By ALLAN McLANE HAMILTON, M. D.

It is my purpose to call attention to what I believe to be a new form of arthritic disease of nervous origin—a symmetrical arthropathy of a distinctly progressive nature, and of slow development. Irregularly distributed joint affections are not uncommon in connection with some forms of cerebral and spinal degeneration—with certain varieties of hemiplegia, with secondary degeneration of the crossed pyramidal columns, and with sclerosis of the posterior columns of the cord. In such instances we find that the knee or hip joint is the common seat of the trouble, and it is rare to discover that more than one articulation is involved to any decided degree.

I have never discovered anything like regularity in the invasion of the arthropathy, nor any special selection of joints, until I examined a patient, Mrs. T., who came to me at the request of Dr. Agar, of Middletown, N. Y.

The patient is a married woman, forty years old, who has had no children nor miscarriages. Her family history is good.

She has never had syphilis, and there is no history whatever of rheumatism, in the ordinary sense of the word. About fourteen months ago she first noticed that her ankles became swollen, the outside of the left ankle being puffed. This was unattended by much tenderness, but there were shooting or darting pains running up the leg. The swelling, which was apparently œdematous though hard, disappeared at the end of two months, leaving a slight prominence. About ten months ago her attention was directed to the stiffness of her two forefingers, accompanied by some swelling upon their palmar aspects, which was very great, and at the same time the joints became swollen. The little fingers were next implicated, and afterward the other fingers more or less. Latterly both thumbs have become involved and are now much swollen, especially upon their palmar aspects, and the œdema of the fingers has in most part subsided. Last winter the right shoulder joint became stiff and the seat of sharp pains. There is very slight soreness and tenderness of all the affected joints, which is slightly aggravated by movement.



She also has sharp pains in the biceps humeri of the left arm, and upon the outer sides of both forearms, in the left wrist, and under her left knee. There is no spinal pain and no plantar anæsthesia. Her gait is slightly ataxic, and she is clumsy in all her movements. There is a loss of muscular power—hardly a decided paresis—but the feebleness which belongs to myxœdema. She flexes her fingers only to a limited extent, and then only with great difficulty, and she has more control over the ring-finger than any of the others. Her condition is affected in no way by changes in temperature or errors in diet, and exercise does not materially increase the little pain she has. Her urine is free from albumin and casts, and does not show any excess of uric acid, sugar, or inorganic constituents. It is, as a rule, clear, and passed in large quantities. Her vision is quite decidedly impaired, and her accommodation is defective. There is some white atrophy of both optic nerves. The left pupil is slightly smaller than the right. Her tongue is large and flabby, but there is little thyroidal enlargement, no atrophy, no loss of hair, and no flushing whatever. Heart normal. Speech unaffected. Left reflexes all exaggerated to some degree, especially the left rotulian reflex.

The cut, from a photograph, shows the deformity of her hands very clearly. It will be seen that the thumbs are the seats of a puffy swelling, which is general, while the enlargement of the other fingers is confined, as a rule, to the joints of the first phalanges. Her inability to flex her fingers is largely due to a mechanical difficulty, though, as I have said, there is some flexor weakness.

I do not think these symptoms can be confounded with those of any other disease—certainly not with *arthritis deformans*, a case of which somewhat resembling that of Mrs. T. was recently reported by Dr. Leonard Weber. There is here no history whatever of the rheumatic influence, but ample associated evidence of some profound disorder of the central nervous system. My experience has led me to look for arthropathies with degeneration, especially of the sensory tracts, and in the cerebral cases of the form first described by Allison, and afterward by Charcot, and a host of other observers, a history of pain is the rule. There can be no doubt of this connection in locomotor ataxia.

In Mrs. T.'s case we are furnished with four important symptoms of that somewhat rare disease known as myxœdema—the enlarged tongue, the pseudo-paresis, the pains, and the scleroderma—and the unilateral contraction of the pupil may be added. The history of so many negative symptoms, and the fact that the face was in no way affected, would do away with any possible misunderstanding.

Certain French writers, among them Arnozan,* speak of a limited œdema of nervous origin, and Mayet † has, in a case of fracture of the vertebræ, found an œdema limited to the exact regions which were anæsthetic.

According to Arnozan and others, the œdema begins suddenly with the arthropathies, and disappears gradually during their evolution, which was the case in my patient, and which I believe to be one of the points in the differentiation of those arthropathies which are of neurotic origin from others which are purely the local expression of the rheumatic condition.

THE "OPIUM PLAN" IN PUERPERAL PERITONITIS.

By HENRY J. GARRIGUES, A. M., M. D.,

OBSTETRIC SURGEON TO THE NEW YORK MATERNITY HOSPITAL.

Dr. W. D. Schuyler, in his article "On the Prevention and Treatment of Puerperal Fever," the conclusion of which is found in this journal for November 8, 1884, has given my contributions on the same subject so much prominence, and treated my efforts to combat puerperal infection in so appreciative a way, that I might be expected to be the last one who should feel called upon to give utterance to any opinion opposed to his views. Nor would I do so if it were not a practical question of great importance in regard to which I differ with him.

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* "Des lésions trophiques," Paris, 1880.

† "Gazette méd. de Lyon," 1868.

So little have I wished to speak that I have waited to see if anybody else would take up the subject; but since nothing, so far as I have noticed, has been written against the remarks of Dr. Schuyler on the use of opiates, especially morphine, in puerperal fever, and since these remarks might prejudice others against the use of a drug which I take to be of the greatest value in the treatment of puerperal inflammations, I think I had better publish some of my observations on this subject.

Dr. Schuyler says that, during his service in Bellevue Hospital in 1870 and 1871, many cases of puerperal fever were treated upon the "opium plan," and always with the same result, *death of the patient from exhaustion* in a varying number of days.

I will not enter into any details about my use of opiates in the milder forms of puerperal inflammation, in which only moderate doses are called for. By the "opium plan" we understand the use of *enormous* doses of opium or morphine, as first recommended in this country, by Dr. Alonzo Clark, more than thirty years ago. This use of the drug is restricted to the treatment of general peritonitis. My experience in regard to this disease is somewhat limited, but, thanks to the introduction of strict antiseptic measures in midwifery, the disease has become so rare everywhere that, fortunately, none of us can expect to attain a very large personal experience in the treatment of this dangerous disease. I shall, furthermore, only consider a period from which I have full notes.

During my last term of service as visiting obstetrician in Maternity Hospital, before I introduced the use of the bichloride of mercury and the tight-fitting pad (see "Medical Record," December 29, 1883), there reigned a considerable mortality and a very large morbidity. During six months, in which one hundred and ninety-two women were delivered, or rather during four months, for all the cases occurred from December, 1882, till March, 1883, both inclusive, we had in all twelve cases of general peritonitis. One of these, in which peritonitis developed only as a terminal feature in the course of gangrenous erysipelas starting from a mammary abscess, does not concern us here. Of the remaining eleven, six ended in recovery.* To save more than half of the patients in so dangerous a disease as general puerperal peritonitis is not bad, and is, at all events, very different from Dr. Schuyler's experience, who saw his always die.

Now, my treatment of this kind of cases consists in three things: antiseptic injections, ice-bags, and opium.

At the beginning of the disease I wash out the uterus once thoroughly, in order to remove what septic material might yet be found there. At the time from which these cases are taken we used a two-per-cent. solution of carbolic acid. The intra-uterine injection is not repeated, in order not to disturb the patient; but, if there is any fœtid discharge, vaginal douches are used about every three hours, otherwise not.

Two large, flat rubber ice-bags are placed on the abdomen, and kept well provided with ice. Although the weight of the ice is rather considerable, no inconvenience from that source is felt, on account of the stupefying effect of the opium. For a change, we have used the rubber-tubing coil, and been well pleased with it; but I have not found it answer better than the ice, and the apparatus is rather troublesome to put up, keep in order, and disinfect, besides the greater expense. In cases in which the opium plan is not followed, especially after operations, the small weight of the coil is a decided advantage over the ice-bag.

But the chief remedy I take to be opium. The preparation used was the old United States Pharmacopœia solution of morphine of one grain to the ounce. In the beginning, and occasionally during its course, a dose of Magendie's solution (two grains dissolved in a drachm) was given hypodermically by the doctor; but, as a rule, the drug was administered through the mouth by the nurse, in doses of one eighth or one fourth of a grain, at short intervals, and, of course, under the supervision of the house surgeon. I prefer the administration by the mouth, because the drug comes in more direct contact with the diseased parts; secondly, because I have seen the opening made by the hypodermic syringe become the starting-point of a fatal infection; and, thirdly, because the doctor can not be present so often as would be required if he should administer all the morphine himself, and nobody else ought ever to make a hypodermic injection. The morphine was given in such quantities as were necessary to keep the patient free from pain, and yet in such a condition that she could be easily roused, and that the respirations did not go below fourteen a minute. The depressing influence of the ice and the morphine was probably counteracted by the free use we made of whisky or brandy.

There are few therapeutical measures by the prescription of which I am so convinced of doing good to my patient as by following this plan in treating puerperal peritonitis. When I was a student this disease was treated with large doses of an aperient medicine, warm poultices, or a coating of collodion applied to the abdomen, to which were added insignificant doses of opium. The aspect of these poor women has impressed itself indelibly on my mind as something of the most horrible I have ever seen, They looked as if they were being tortured on the rack, and the only consolation was to know that they would soon succumb to the united attacks of the malady and the treatment. Young as we were, and not knowing that other remedies were resorted to in other places, it struck us as absolutely fatal to follow this treatment, so sure were we soon to see the patients removed from the wards to the dead-house. How different is it with the "opium plan"! The patient is free from pain, there is so little tenderness that the weight of ice-bags covering the whole abdomen is not felt, and the chances of recovery and death are in favor of the former.

As to diet, the patient receives only milk and beef-tea. The bowels are, as a rule, left undisturbed. From time to time there will be a spontaneous passage; otherwise an enema is given.

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* In the above-mentioned article in the "Record" I gave by mistake the figures as ten cases with seven deaths.

As an instance of the large amount of morphine tolerated, I will, in conclusion, briefly mention the chief features of one of the cases referred to above:

M. K., aged twenty-five, widow, born in Ireland, was delivered on December 31, 1882, the child presenting by the face. On January 7th she complained of slight pain and tenderness in the right iliac fossa, for which she was treated with an ice-bag and small doses of morphine. On the 10th general peritonitis developed, with a temperature of 104·5°, pulse 120, respiration 30. Ordered ice-bags to the abdomen—morphine and whisky. From January 10th till February 2d she was given 215⅚ grains of morphine, 227¾ ounces of whisky, 1,078 ounces of milk, 418 ounces of beef-tea, making an *average of nine grains of morphine*, nine ounces and a half of whisky, forty-five ounces of milk, seven ounces and a half of beef-tea in twenty-four hours. The greatest amount given in twenty-four hours was *thirteen grains and three fourths of morphine* (January 17th), twelve ounces and a half of whisky (January 22d), sixty-seven ounces and a half of milk (January 14), seventeen ounces of beef-tea (January 23d). From February 2d she was only given small amounts of morphine, and on February 7th all morphine and the ice-bags were discontinued.

From January 26th oat-meal gruel and crackers, thoroughly soaked in milk, were added to the diet. No solid food was given until February 1st.

During the disease the temperature reached 104° F.; the pulse was as frequent as 176 a minute, irregular, and intermittent; the respirations were kept between 14 and 20 a minute. A bed-sore developed over the sacrum, and there was repeatedly some bleeding from the nose.

As to the condition of the bowels, she had no movement between the 10th and the 25th of January, when she was given an enema of six ounces of soap-suds without effect. The next day ten ounces were injected, and followed by two liquid movements. On the following day there was a slight spontaneous discharge. On the 30th again an enema, followed by five movements and once vomiting. The following day there were six movements and once vomiting. On the following four days she had two or three spontaneous movements a day, and after that she was so well that no record was kept of the bowels. On February 16th, *i. e.*, three weeks and a half after the invasion of the disease, she was walking about the ward.

Book Notices.

A Study of the Bladder during Parturition. By J. Halliday Croom, M. D., F. R. C. P. E., Physician to the Royal Maternity Hospital, etc. Edinburgh: David Douglas, 1884. Pp. 74.

This attractive little book must be conceded no inconsiderable rank among the contributions to topographical anatomy for which the younger Edinburgh obstetricians are becoming famous. We trust that it will meet with a reception commensurate with the importance of the subject. The brief title given to the work hardly covers its scope, for it treats of the bladder during the puerperal state as well as during the mere process of parturition, and a number of interesting questions connected with the behavior of other pelvic organs than the bladder are considered incidentally. The practical bearing of all these matters upon obstetrics can not be questioned, and no one entering upon such practice could fail to get a good deal of light from studying them as they are here presented.

Klinische Vorträge aus dem Gebiete der Geburtshilfe und Gynäcologie auf Grundlage eigener anatomischer und klinischer Beobachtungen. Herausgegeben von J. Balandin, Director des Hebammeninstitutes in St. Petersburg. I Heft, mit XII lithographischen und I phototypischen Tafel. St. Petersburg: C. Ricker, 1883. 4to, pp. 127, and plates.

This work, embracing the first part of a series of clinical lectures, treats of methods of measuring the pelvis, of a process of preparing dried pelves without altering their shape, of the part played by the pelvis in the mechanism of labor, of the mobility of the pelvic joints incident to pregnancy, and of the mechanism of lacerations of the perinæum. The author's processes for making preparations of the pelvis involve the pinning of the bones together securely at all points where motion is liable to take place, and the making of plaster casts. Minute descriptions are given of various interesting details. The work is valuable chiefly, perhaps, for the sources of error it points out in previous investigations in the same direction.

BOOKS AND PAMPHLETS RECEIVED.

Modern Medical Therapeutics: a Compendium of Recent Formulæ and Specific Therapeutical Directions, from the Practice of Eminent Contemporary Physicians, American and Foreign. By George H. Napheys, A. M., M. D., etc. Edited by Joseph F. Edwards, M. D., and D. G. Brinton, M. D. Eighth Edition, enlarged and revised. Philadelphia: D. G. Brinton, 1885. Pp. 629.

Diseases of the Urinary and Male Sexual Organs. By William T. Belfield, M. D., Pathologist to the Cook County Hospital, Chicago, etc. New York: William Wood & Co., 1884. Pp. vii–351. [Wood's Library of Standard Medical Authors.]

The Therapeutics of the Respiratory Passages. By Prosser James, M. D., Lecturer on Materia Medica and Therapeutics at the London Hospital Medical College, etc. New York: William Wood & Co., 1884. Pp. vii–316. [Wood's Library of Standard Medical Authors.]

A Manual of the Medical Botany of North America. By Laurence Johnson, A. M., M. D., Lecturer on Medical Botany, Medical Department of the University of the City of New York, etc. New York: William Wood & Co., 1884. Pp. xi–292. [Wood's Library of Standard Medical Authors.]

Catalogue of Dartmouth College and the Associated Institutions, for the year 1884–'85.

Biennial Report of the Alabama Insane Hospital at Tuskaloosa, for the years ending September 30, 1883 and 1884.

Doctor Grattan. A Novel. By William A. Hammond, Author of "Lal." New York: D. Appleton & Co., 1885. Pp. 417.

The Physician's Daily Pocket Record, comprising a Visiting List, Many Useful Memoranda, Tables, etc. By S. W. Butler, M. D. Nineteenth Year. Edited by D. G. Brinton, M. D. Philadelphia: Office of the "Medical and Surgical Reporter," 1885.

Official Register of Physicians and Midwives (now in practice) to whom Certificates have been issued by the State Board of Health of Illinois. 1877–1884.

Contributions from the Ophthalmic Clinic (Professor W. W. Seely), Medical College of Ohio. Acetate of Lead in Ocular Therapeutics. By David De Beck, M. D., Assistant to the Chair of Ophthalmology. Cincinnati, 1884. Pp. 11.

House Drainage in New Haven. By Alton W. Leighton, Ph. B., M. D. [Reprint from the "New England Medical Monthly."]

Report of the Chief of the Bureau of Medicine and Surgery of the Navy Department, November 1, 1884.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, JANUARY 24, 1885.

THE ABUSE OF MEDICAL CHARITY.

The subject of medical charities and their abuse has become a very trite one. Occasionally some writer succeeds in investing it with more than a passing interest, as was the case with Mr. Sampson Gamgee, of Birmingham, England, to whose address upon that theme we alluded in a late issue. So futile have been the attempts of medical journals to bring about any reform in this direction that they have almost given over the struggle. We feel compelled to touch upon the matter again, however, although with little expectation of throwing any new light upon it.

It has become apparent to all who have given the subject much attention, whether out of pure curiosity or because their own interests were involved, that medical charities in New York were assuming a very peculiar aspect. The plan of making use of dispensary patients for purposes of clinical instruction, an excellent one in itself, has so modified the character and aims of some of our institutions for out-door relief that the relative positions of physician and patient have been changed. The patients are regarded as conferring a favor by their attendance at a certain clinic rather than at its rival. Moreover, so far from any patients being refused treatment because of their ability to pay for medical services, they are too often encouraged to come regularly, and to bring their friends. The result of this so-called "charity" has been that, whereas our dispensaries were formerly almost exclusively attended by persons of the poorer classes, for whom they were originally designed, now they are thronged by those who, before their independence and self-respect were sapped by long habits of "sponging," would have refused such assistance as a disgrace. New York patients may now be divided into two broad classes, one including the rich, who will employ none but the most eminent practitioners, and the other consisting of a large and respectable class, who, if they do not make a practice of frequenting dispensaries, see no impropriety in occasionally seeking gratuitous advice at the clinic of some specialist. This being the condition of affairs, the natural feeling is, God help the young doctors, for between these two chairs they are sure to fall to the ground.

Now, the remedy for this dismal situation is very simple. It is merely a matter of generosity on the part of some of the older men, a difficult virtue to inculcate, but none the less a possible one. What if one clinic is not quite so large as another, is that a reason for increasing it by committing an act of positive injustice? Is New York to become one vast dispensary? If it is, there will be no *raison d'être* for the rising medical generation; their sphere will have been filled by the clinic. We invite the earnest attention of the profession to this subject as one more worthy of their thought and study than many of the fruitless questions which have agitated them of late years. It is one which can not be settled by any spasmodic attempts at reform on the part of a few men, but by the creation of a healthy sentiment among all of the directors and medical attendants of our charitable institutions. *Combined* action can alone effect a radical cure of the evil.

RECENT PROGRESS IN BACTERIOLOGY.

In reviewing the medical progress of the last year, we are struck with the large amount of work which has been done in the department of experimental pathology. It can not be denied that much of this interest which has been awakened in a hitherto neglected subject has been due to Koch's discovery. Whatever may be its value from a practical point of view, the enunciation of the parasitic theory of cholera has given an immense impetus to the study of micro-organisms. As a proof of this we refer not only to the spirited discussion which has been aroused regarding the identity of the cholera bacillus, but to the attempts which have been made to discover specific germs for many diseases not formerly regarded as parasitic in their nature. The tubercle bacillus has been exhaustively studied by Baumgarten, Müller, and Kanzler. Friedländer has apparently confirmed the existence of the pneumococcus; Watson Cheyne has described a characteristic organism found in the blood of purpuric patients; Tayon and Goffky maintain that there is a specific germ for typhoid fever, and Gaudelin states that there is a micrococcus peculiar to dysentery; while Heubner has made careful studies of the micrococci of diphtheria, and doubts their specific nature. Bacilli peculiar to follicular amygdalitis and glanders have been described. In cerebro-spinal meningitis, in osteo-myelitis, and in diseases of the jaws, such as caries, we learn that micro-organisms have been found.

The occurrence of actino-mycosis in man, to which attention was recently directed by foreign pathologists, has been observed in our own country by Dr. Murphy, of Chicago.

This brief mention of the various directions which the study of bacteria is taking opens a vast field of possibilities, and leads us to ask the question, What discoveries will be made this year, since the last has been so prolific? Some of the brightest minds in the profession are seeking fame in the field of bacteriology, and the flood of light which has been thrown upon the subject can not but illumine what has hitherto been wrapped in obscurity. It may be that we stand upon the threshold of some new discovery which will revolutionize medicine.

MINOR PARAGRAPHS.

THE REPORT OF THE ENGLISH CHOLERA COMMISSION.

The preliminary report presented by Dr. Klein and Dr. Gibbes will be read with great interest, since it is so diametrically opposite to that of Dr. Koch. Not to quote at length the nine propositions embodied in the report, it will be sufficient to mention the three most important—viz.: That the comma bacilli are not characteristic of cholera, since they are present in diarrhœa and dysentery; that they behave precisely like other putrefactive organisms when cultivated artificially; and, finally, that all attempts made by the investigators to induce cholera in animals, by either feeding or inoculation with these germs, have signally failed. The commission add that they have discovered a straight bacillus which is of more constant occurrence in choleraic discharges than the comma variety. The complete report is promised soon. We foresee a storm ahead. It is not likely that Koch will remain silent while his statements are so radically assailed.

CEREBRAL SURGERY.

The "Lancet" publishes a *résumé* of the famous case of cerebral tumor which was operated upon by Mr. Godlee, after its location had been exactly defined by Dr. Hughes Bennett. The patient, unfortunately, died of cerebral inflammation, but the result of the operation was such as seemed to justify the surgeon in his bold procedure. The public press got hold of the case, and, as usual, dragged into their discussion the old subject of vivisection and its horrors, apparently losing sight, as the "Lancet" justly remarks, of the fact that the accuracy of the diagnosis was a strong argument in favor of experimental studies in cerebral physiology. The bigotry of the British public with reference to this question and their distrust of their most eminent scientific men are only equaled by the general suspicion with which our own laity regard anything approaching to an "experiment" on the part of the medical fraternity.

THE ABUSE OF ALCOHOLIC LIQUORS.

A prolonged discussion upon this subject has been recently carried on in the German Society of Public Hygiene. The arguments advanced were not new, but they were supported by a number of interesting and important facts. Herr Mehlhausen, who closed the debate (which has been continued through several numbers of the "Deutsche Medizinal-Zeitung"), referred to the extended observations which had been made in the Prussian army with reference to the utility of serving rations of schnapps to soldiers when in active service. The experiment had been thoroughly tried by the army surgeons, with the result of their abandoning spirits for tea and coffee.

It was further stated that the majority of cases of frostbite and sunstroke in campaigns were among those who were addicted to strong drink.

It was not the opinion of the society that such radical measures should be resorted to as had been taken in Maine, but it was suggested that much might be done by improving the quality of spirits and regulating their sale more strictly. As might be inferred, there was no plea for total abstinence.

A PROPOSED AMBULANCE SERVICE IN PARIS.

A deep interest has been excited in this subject, as will be inferred from the fact that the Academy of Medicine has held a special meeting for the purpose of deciding upon it. Victor Hugo and many other prominent citizens have lent their support to the scheme, and there is every reason to believe that it will be carried out. It has been a matter of constant surprise to American physicians who have lived in Paris that such crude arrangements for the relief of the injured were allowed to exist. For such a large city, and one, too, in which the hospital arrangements are so admirable, the absence of a modern ambulance system has been a constant reproach.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 20, 1885:

DISEASES.	Week ending Jan. 13.		Week ending Jan. 20.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	20	1	1	0
Typhoid Fever	5	3	13	3
Scarlet Fever	86	17	69	16
Cerebro-spinal meningitis	9	9	4	3
Measles	152	39	127	28
Diphtheria	58	28	66	19

The "Index Medicus."—The following notice, addressed to the subscribers to the "Index Medicus," and signed by the editors, accompanies the annual index, which completes the sixth volume of that publication: "Notice.—With this issue, containing the title-page and annual index of volume vi, the 'Index Medicus' will cease to be published. During its six years' career it has been supported by its especial friends, with a generosity perhaps unparalleled in the history of medical journalism. The publisher, the late Mr. Leypoldt, notwithstanding a heavy loss at the outset, and a but slowly diminishing annual deficit, maintained the undertaking with characteristic spirit and zeal. His successors, who are managing his estate and business enterprises, have made strenuous efforts to place the 'Index Medicus' on a self-supporting basis, remembering with what particular favor Mr. Leypoldt regarded it. Their latest effort has been unsuccessful, and the few additional subscriptions which were required have not been obtained. The time has come, therefore, when neither zealous friends nor generous publishers can be allowed to make further efforts or sacrifices, and the publication is discontinued. Whether it will, in some other shape, or under some other auspices, again appear, is for the future to decide."

Medical Appointments under the City Government.—We have received the following notice, signed by the examining board, Dr. T. H. Burchard, Dr. T. H. Manley, and Dr. J. Tilden Brown, with a request to publish it for the information of the profession: "A competitive examination, to fill future vacancies in the medical departments connected with the City Government, as prescribed under the Laws of the State of New York relating to appointments under civil service, will be held on Monday, February 2d, at such time and place as will be announced in the city papers of the preceding Saturday. The necessary application papers may be obtained of Russell Sturgis, Esq., 23 East Twentieth Street, New York. Applicants must be regular graduates in medicine, and residents of this city."

The Medical Society of the State of New York.—Dr. C. L. Dana, secretary of the New York County delegation, writes us that round-trip tickets from this city to Albany can be purchased of the West Shore Railway Company for $3.10. On Monday afternoon, February 2d, the regular express, with an additional parlor-car, leaves the down-town station at 3.50 P. M., and the West Forty-second Street station at 4 P. M., arriving in Albany at 9.10 P. M.

The New York County Medical Association.—At the annual meeting, held Monday evening, the 19th instant, the following-named gentlemen were elected to office for the coming year: Dr. C. A. Leale, president; Dr. E. G. Janeway, vice-president; Dr. P. B. Porter, recording secretary; Dr. C. S. Bull, corresponding and statistical secretary; Dr. W. V. White, treasurer; and Dr. W. T. White, member of the executive committee.

The Carnegie Laboratory of Bellevue Hospital Medical College.—On the 30th of December, 1884, Dr. E. G. Janeway and Dr. F. S. Dennis were appointed directors of the laboratory, and on the 20th of January, 1885, Dr. Herman M. Biggs, Dr. L.

J. McNamara, and Dr. J. S. Thatcher were appointed instructors in the laboratory.

St. Mary's Hospital, Brooklyn.—The second annual dinner and reception were given on Monday evening, the 19th inst., at the Clarendon, Brooklyn.

The Maine General Hospital, it is reported, will receive the sum of $100,000 by the will of the late Ex-Governor Coburn, of that State.

The Obstetrical Society of Cincinnati, as we learn from the "Cincinnati Lancet and Clinic," has elected officers for the ensuing year as follows: Dr. A. J. Miles, president; Dr. G. S. Mitchell, vice-president; Dr. Clara Ellsbury, recording secretary; Dr. J. G. Hyndman, corresponding secretary; and Dr. G. E. Jones, treasurer and curator.

The "Annals of Surgery."—The first number of this journal, which is virtually a continuation of the "Annals of Anatomy and Surgery," has reached us. It is dated January, 1885. The quality of the contents is excellent, but perhaps the greatest interest will attach to Dr. Skene's history of another successful case of laparo-elytrotomy. A long editorial review of the year, entitled "Annus Chirurgicus," is also exceedingly creditable. Altogether, the new journal seems likely to fulfill the expectations that have been entertained in regard to it.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 11, 1885, to January 17 1885:*

Head, John F., Colonel and Surgeon. Retired from active service, by operation of law, on January 9, 1885, under provision of Act of Congress, approved June 30, 1882. S. O. 7, A. G. O., January 9, 1885.

Promotions.

Campbell, John, Lieutenant-Colonel and Surgeon, to be surgeon, with rank of colonel, December 7, 1884.

Alexander, A. H., Major and Surgeon, to be surgeon, with rank of lieutenant-colonel, December 7, 1884.

McElderry, Henry, Captain and Assistant Surgeon, to be surgeon, with rank of major, December 7, 1884.

Appointment.

Kean, Jefferson R., to be assistant surgeon, with rank of first lieutenant, December 8, 1884.

Bentley, Edwin, Major and Surgeon. Leave of absence extended two months. S. O. 8, A. G. O., January 10, 1885.

Tremaine, W. S., Major and Surgeon. Relieved from duty at Fort Porter, N. Y. S. O. 8, Department of the East, January 12, 1885.

Girard, A. C., Captain and Assistant Surgeon. Ordered for duty at Fort Porter, N. Y. S. O. 8, Department of the East, January 12, 1885.

Appel, D. M., Captain and Assistant Surgeon. Ordered for duty at Plattsburg Barracks, N. Y. S. O. 8, Department of the East, January 12, 1885.

Girard, J. B., Captain and Assistant Surgeon. Ordered for duty as post surgeon at Fort Schuyler, New York Harbor. S. O. 8, Department of the East, January 12, 1885.

Havard, Valery, Captain and Assistant Surgeon. On being relieved at Fort Schuyler, authorized to avail himself of leave of absence (four months). S. O. 8, Department of the East, January 12, 1885.

Elbrey, F. W., Captain and Assistant Surgeon. Sick leave still further extended six months on surgeon's certificate of disability. S. O. 9, A. G. O., January 12, 1885.

Society Meetings for the Coming Week:

Monday, *January 26th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *January 27th:* New York Dermatological Society (private); New York Surgical Society; Medical Societies of the Counties of Onondaga and Putnam, N. Y.; Boston Society of Medical Sciences (private).

Wednesday, *January 28th:* New York Pathological Society; American Microscopical Society of the City New York; Auburn, N. Y., City Medical Association; Medical Society of the County of Gloucester, N. J.; Berkshire District, Mass., Medical Society (Pittsfield); Middlesex North District, Mass., Medical Society (Lowell); Cumberland County, Me., Medical Society (Portland).

Letters to the Editor.

THE QUESTION OF MIDWIVES.

244 West Fifty-fifth Street, *January 10, 1885.*

To the Editor of the New York Medical Journal:

Sir: In a recent issue of your journal I have met with an article, designated "The Question of Midwives," which calls for more than a passing notice, inasmuch as it at once brings before the medical profession the subject to which I have recently given no inconsiderable thought. The author begins by, perhaps unwittingly, committing an error in saying that I advocated midwives for the wives of working-men. If the writer will reflect a moment, he will remember that I said it was not a question, Are they needed? Statistics, I showed, proved that, now, more than half of our parturient women were delivered by those known as midwives. The aim of my paper was to determine the disposition of the medical gentlemen present in regard to two things: First, Is it not well to qualify a certain number of women to attend obstetric cases? Secondly, What shall be the nature and extent of those qualifications?

I am heartily in accord with the author in frowning down and condemning those midwives who announce their advent by rascally quackery, and I predict for them a short career. I sincerely hope that the Legislature of the State will not give any school for midwives a legal standing. If a school is established for the training of women in midwifery which shall get and deserve the recognition of the profession, there is no reason why it should not succeed. If the people want women as *accoucheuses,* and such women ask for an elementary knowledge of the art, such as will enable them to attend normal cases and discover difficult and dangerous ones, then it becomes the duty of medical men to respect such demand, and give them a fair trial. The author must not forget that France has had female practitioners of obstetrics—they were not physicians—who have become famous in medical history. "One swallow does not make a summer"; the whole craft should not be condemned for the misdeeds of one.

Thomas H. Manley.

DR. MacCONNELL'S TREATMENT OF DIPHTHERIA.

Cranford, N. J., *January 21, 1885.*

To the Editor of the New York Medical Journal:

Sir: In my letter, in the last issue of the "Journal," the prescription should read: Tincture of aconite root, *fifteen drops.*

Please add that of this prescription we seldom give more than from four to eight full doses until the general and local symptoms are so much improved that we change to one-half doses. And, when the exudation is almost gone, we substitute for the potash mixture two to eight drops of tincture of chloride of iron, in water, every four hours, for a few days. Afterward, for one or two weeks, we give three to fifteen drops, according to age, three times a day. The sulphur mixture we continue, alternating with the iron, until the coating is entirely removed from the throat, and then replace it with brandy, teaspoonful to tablespoonful doses, for one or two weeks.

J. K. MACCONNELL.

THE TRANSACTIONS OF THE LONDON AND NEW YORK PATHOLOGICAL SOCIETIES.

To the Editor of the New York Medical Journal.

SIR: London has over four millions of inhabitants; New York less than a million and a half. The London Pathological Society has 650 members; ours has 170. The annual income of the former, for 1881, was more than $3,500; ours about $800. Our expenses are nearly $600 a year, leaving an annual balance of about $200. A volume of the "Transactions" costs over $700, requiring nearly four years' savings to publish one.

J. C. PETERS, M. D., *Editor.*

THE DISCUSSIONS AT THE COUNTY SOCIETY.

NEW YORK, *January 20, 1885.*

To the Editor of the New York Medical Journal.

SIR: At the meetings of the County Medical Society the names of the expected participants in the discussion are printed on the cards. Is this meant to exclude all others from speaking?

C. E. NELSON, M. D.

[The practice could have no such effect as our correspondent suggests, and we do not believe that it was intended for that purpose.—EDITOR.]

Proceedings of Societies.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of January 3, 1885.

Dr. C. L. DANA in the Chair.

Intra-cranial Hæmorrhage in Children.—Dr. S. J. McNUTT opened a discussion on this subject, first presenting the following cases:

CASE I.—A boy of ten years was healthy until his fourth year, when he had measles. After recovering from this disease he was unsteady in walking, and did not play as he had done previously. For a time he grew worse and, as his mother said, less able to manage himself, was irritable, hard to govern, and deaf, and became "ugly" whenever there was much noise about. He came under notice first in February, 1884. He was unable to stand unsupported, and, when he was asked to walk, the mother held him firmly by the collar and one arm. His gait was sprawling and stumbling, and it seemed difficult to keep him on his legs. The hands were semi-flexed and the whole arm was pronated. The feet were extended, with the toes pointing inward and the heel elevated. The toes were curled into the plantar surface of the foot and could not be completely straightened, even by force. Both the paralysis and the contractures were somewhat more marked upon the right side than on the left. He could speak, but only in monosyllables, and frequently did not finish his words, so that it was difficult for a stranger to understand him. At this time he was recovering from an attack of pneumonia, and both the contractures and the paralysis were worse than usual. Indigestion also always aggravated them. In the treatment special attention was paid to his diet, and his bowels were regulated by two grains of bicarbonate of sodium and a teaspoonful of compound infusion of senna before meals. He was also given three grains of iodide of potassium with twenty drops of fluid extract of ergot three times a day, and his condition had steadily improved so that he was now at his best. There were still strong contractures of the gastrocnemii and of the hamstring muscles. He could put his heels to the floor now if he was not hurried, but if he was in a hurry he put the toes down first. There were at present no contractures in the upper extremities, but they were considerably atrophied. All the muscles responded to faradism, but the extensors of the forearm required a very strong current, and even then gave a feeble response. He could speak with considerable fluency, but his utterance was still thick, and he could not yet be well understood. He was not an imbecile, nor was he so bright as ordinary boys of his age; he was the sport of his playfellows, and did anything they told him. He knew a few of his letters and liked to be taught, and he was not so "ugly" as he used to be, when he was profane and could not be restrained. He had a decided appreciation of music. A number of years ago this patient was seen by Dr. S. M. Roberts, who advised sea-bathing, by which he was benefited.

CASE II.—A child, four years of age, was perfectly well until one year ago, when he had a fever, which reached, according to the mother's statement, 104° F. on the third day. That evening he had convulsions, which lasted for twenty-four hours, after which he was unconscious for a week, requiring to have his mouth opened and shut in order to be fed. He did not speak for six weeks, and then only in single words, acquiring them slowly, like a child learning to talk. When consciousness returned, the mother noticed that he did not use the right hand or leg, and that the angle of the mouth on that side drooped. The patient first came under notice on July 2, 1884, when there was still some drooping of the angle of the mouth, and the tongue was still deflected toward the same side. These symptoms were not now present. He walked, but there was not so much force in the leg of the affected side as in the other, and the toes were curled under. The fingers were flexed, and there was strong pronation of the forearm of the right side. All the muscles responded to faradism, though the extensors of the wrist and the anterior tibial group of the leg were particularly weak. The extremities were shorter and smaller on the affected side.

This case was in marked contrast to the preceding from the fact that there was hemiplegia, while in the first both sides were affected. In her dispensary class, the speaker had had a number of cases that could not be presented.

One patient had a specific taint, and at the age of ten months had convulsions limited to the left side and following an attack of indigestion. Contractures remained, so that the chin touched the left shoulder and the left hand was in the axilla. The child was now eighteen months old, but did not yet walk. There were now no contractures, but a decided disinclination to use the left hand. The left angle of the mouth was usually on a level with that of the right side, but the muscles tired more readily, and so this angle sometimes drooped.

Another child was well until nine months of age, when it had an attack of fever, which lasted for several days and was followed by convulsions, which left the child dull and sleepy. It then had daily convulsions. It never spoke after the first seizure, although before it could say a few words. It never walked or stood alone, and died, at the age of twenty-three months, of diphtheria. An autopsy was refused.

A child seven years old presented contraction of the fingers of the right hand and the toes of the right foot, and had a violent temper, which condition had followed an attack of small-pox at the age of two years and a half. Ten days after the eruption she was seized with convulsions and became unconscious. While she was in this condition the mouth was drawn to the left side, and there was internal strabismus of the right eye. This was overcome after a few months. For six weeks after the seizure she did not speak, and then she had to be taught again. At the end of three or four months she began to walk, although the contractures still persisted, with some wasting of the affected muscles.

In another child, nine years old, there was paralysis of the right arm and hand, which dated from an attack of convulsions at the age of two months. The thumb was flexed into the palm and the hand on the forearm. This arm was also shorter than the other.

In addition to these cases, the speaker was also permitted to mention one under treatment by Dr. M. Allen Starr.

This child was ten years old, had never walked, and could not stand or sit without support until after it was six months of age. Its birth was difficult, instruments being resorted to. The presentation was not known. The convulsions were more severe on the left side, and there was internal strabismus on the same side, which still persisted. The hands were semi-flexed and pronated, and the forearms were flexed on the arms. All the contractures except those of the little fingers could be readily overcome. There also seemed to be some contraction of the pectoral muscles. The thighs were adducted, and there were contractures of the tendines Achillis and of the hamstring tendons. The toes were curled under, and during the past month talipes varus had developed in the left foot. The sight was thought to be somewhat affected, but the hearing was excellent. His intelligence had improved, and his memory was good. He was easily disturbed by noise, but was amiable, laughed, sang, and had been able to talk for two years. He spoke only in monosyllables, however, and was understood with difficulty. When he laughed the mouth was drawn to the right side. Sensibility seemed normal. All the muscles responded to faradism, and there was no degenerative reaction in any part. [Fuller details of these cases, with photographs, would be found in the "Archives of Pædiatrics" for January, 1885.]

In all these cases, except one, we had paralysis of both extremities, upon one or both sides of the body. The simultaneous paralysis of an arm and leg upon one side of the body pointed, as a rule, to a cerebral cause. In one of these cases we had double hemiplegia, with thick utterance and diminished intelligence. In another, with right hemiplegia, aphasia, lasting six weeks, and facial paralysis with deviation of the tongue to the right. Another child, with the double variety, never spoke after its seizure, though previously it could say a few words; while another, with only the right side affected, had the mouth drawn to the left, internal strabismus of the right eye, and aphasia lasting six weeks; another, with the double variety, had strabismus with facial paralysis and indistinct speech; while in the case without any distinct history of the implication of the cerebral nerves, and where only an arm was paralyzed, there were contractures and shortening of the paralyzed limb, a condition which was characteristic of the other cases in which the diagnosis of cerebral lesions had been made. In locating this lesion a number of facts served as guides. Aphasia was particularly noticed in the two hemiplegics; also, where the facial paralysis occurred, it was on the same side as the paralyzed limbs, two circumstances that located the lesion above the pons. The definite location could only be inferred from analogous cases.

Details of thirty-four autopsies collected by the speaker ("Am. Jour. of the Med. Sci.," Jan., 1885) yielded the following: A right hemiplegic, whose affection dated from convulsions in youth, presented upon the surface of the left hemisphere a depression which communicated with the ventricle of that side; in one with double hemiplegia and idiocy, dating from the fourth year, there was atrophy of the cortex about the lower two thirds of the fissure of Rolando upon both sides; in one with right hemiplegia from convulsions at sixteen months there was atrophy of the whole left hemisphere; one with right hemiplegia, dating from convulsions at three months, had the middle upper part of the left hemisphere occupied by a cyst, about which hæmatoidin crystals were formed; a left hemiplegic with strabismus, dating from convulsions at six months, had atrophy of the right hemisphere, especially about the fissure of Rolando. The lesion, therefore, that had accompanied infantile hemiplegia had been either a shrinkage of the whole opposite hemisphere or a depression of its surface about the fissure of Rolando, into which the gray matter of the cortex dipped. Where the sutures were not yet ossified, asymmetry of the skull resulted from this lesion; but, if ossification was complete before the difficulty occurred, a serosity filled up the cavity.

Sections of the pyramidal tracts belonging to the diseased cortex became colored deeply with carmine, as though a secondary degeneration had taken place. Rilliet and Barthez ("Traité des maladies des enfants," 1884, vol. i, p. 271) mentioned the transmission of this degeneration to the optic and acoustic nerves in some cases. Heroult ("Arch. de phys.," August 15, 1884) advanced, on the contrary, the opinion that this staining might be due to the predominance of neuroglia from the arrested development rather than to a new growth. He found a similar staining of the pyramidal tracts in all children under four years. This lesion was supposed to travel from the convexity, and to be due to a clot or an encephalitis. In one case hæmatoidin crystals were found, and in two others the shrunken convolutions were of a rusty color. West ("Diseases of Children," 1860, p. 56) gave a number of seizures in cachectic children who died, and in whom hæmorrhage was found at the autopsy. The theory of a clot was also favored by the fact that in a number of cases, as in Dr. Starr's, the seizure had followed an injury at birth, especially when associated with a breech or footling presentation. In a case already reported by the speaker there was a foot presentation. The labor was long and difficult, and instruments were finally used. Following the delivery the child had convulsions, paralysis, dyspnœa, stridulous respiration, and nasal regurgitation of food. At the autopsy, atrophy about the fissure of Rolando on both sides was disclosed. Over fifty cases of spastic rigidity were reported by Little ("Obstet. Jour. of Great Britain and Ireland," 1862) where a difficult labor was supposed to be the cause, and in one of them atrophy of the opposite hemisphere was found, with the evidence of an old clot. Still more conclusive proof was furnished by a number of cases collected and reported by the speaker in the "Am. Jour. of Obstet." for January, 1885. Among these there were three breech cases in which there were convulsions with paralysis or rigidity, similar to that of the initial stage of this disease, and in which, after death at only one, two, or three weeks of age, the fresh clot was found. In one case the clot dipped down into the fissure of Rolando, and reposed upon the ependyma of the ventricle, occupying the position of the central convolutions, which were destroyed. It seemed reasonable that this child, had it lived, would have developed a true porencephalic defect—certainly a depression in the surface, and, by pressure or shrinkage, possibly also the breaking down of the ependyma, and, consequently, a communication between the ventricle and the arachnoid cavity through the bottom of the depression.

The production of this lesion by hæmorrhage was also favored by the fact that the intra-cranial hæmorrhages of children were usually meningeal. Eustace Smith said that, under the age of three years, it was rare to meet with any other form. The production of the double form by this means was not improbable, as the meningeal hæmorrhage in a large proportion of cases occurred simultaneously upon both sides. In the pachymeningitis of adults the effusion, according to Huguenin (von

Ziemssen's "Cyclopædia"), was bilateral in fifty-six per cent. of all cases. Bouchut ("Arch. gén. de méd.," 1839, p. 261) found both hemispheres affected in twenty-three out of forty cases.

The predisposing cause in one of the cases reported seemed to be a specific taint; weak children were also supposed to be more exposed to the possibility. In a number of Rupprecht's cases (Volkmann's "Sammlung klinischer Vorträge," No. 99) the children were prematurely born, and it might be that the congenital weakness of tissue persisted in these cases.

In some of the cases the seizure was preceded by a more or less prolonged febrile attack. Steiner had suggested that fatty degeneration of the walls of the vessels occurred from the pyrexia. Infantile hemiplegia had follwed measles more frequently than any other disease, and it had been suggested that profound alteration of the blood might be an element in the ætiology. The causative hæmorrhage seemed to be associated with the after-coming head, and it was interesting to note that when this was the mode of delivery the hæmorrhage appeared to be at the convexity, while in vertex cases it was more frequently at the base, and, consequently, destroyed life sooner. In seven vertex cases the children lived from twenty-eight hours to five days ("Am. Jour. of Obstet.," Jan., 1885), and had the effusion about the base, in the cerebellum, or limited to the posterior cerebral lobes, while in none of the breech cases were these regions involved, and in these latter the children lived longer than the others. According to text-books, the apoplexy of the new-born was always at the base, or involved only the posterior cerebral lobes. Cruveilhier spoke only of this variety, and the non-recognition of the convexity variety was probably due to the longer period of life in these cases.

The diagnosis of the one-sided variety in children was not difficult. The paralysis, with apparent shortening, dating back to childhood, following convulsions, and alternating with contractions, presented a picture that, once seen, could never afterward be mistaken. The contractures were very characteristic, the fingers and arm were flexed, and the forearm was pronated; contractures might exist at the knees and in the tendo Achillis, and the thighs might be adducted.

These symptoms were not always present (Rilliet and Barthez). The foot, however, was always, in the active stage of the disease, in extreme flexion, the heel being elevated and the patient walking on the toes. As a rule, the patient could use the paralyzed part after a fashion. The diagnosis of the double affection was more difficult, however, as it had to be differentiated from a number of diseased states. When the seizure, however, had been sudden and accompanied by convulsions and contractions, cortical irritation from encephalitis or a clot, with the resulting atrophy, must be inferred.

The prognosis was not hopeless; in fact, up to a very late day the method of treatment had been to let the patient grow out of the condition. Rilliet and Barthez considered that other localities took on the function of the one destroyed when improvement occurred, and a number of the patients referred to improved while under observation. Among Rupprecht's, one was dull till its eighth year; several others were slow in developing their intellectual powers, but subsequently became bright. A number in whom the seizure came early did not walk until they had reached their third or fourth year, but afterward acquired the use of their limbs.

For the contractures, passive exercise, central galvanization, faradization of the opposing muscles, cold douches, warm baths, splints, tenotomy, and orthopædic apparatus had been employed. The iodide of potassium with ergot had appeared to diminish the contractures and improve the gait in the first case mentioned this evening. Massage appeared to be beneficial in another case, while in all the usual hygienic measures were employed. Indiscretions of diet, which might induce transitory contractures in the healthy child, also aggravated the contractures in this disease.

The speaker then presented a larynx which had been taken from a child who had double hemiplegia with stridulous respiration and dyspnœa. The organ was small, and presented a number of warty excrescences upon the vocal bands. It had been examined by Dr. Elsberg, who found the vegetations to be composed of the natural tissue of the part, and considered them due to a folding-in of the mucous membrane owing to an incomplete development of the part. Little ("Obst. Jour. of Great Britain and Ireland," 1862), the speaker continued, mentioned incidentally that with spastic rigidity an arrested development of the larynx was sometimes found.

(*To be concluded.*)

NEW YORK CLINICAL SOCIETY.

Meeting of November 28, 1884.

Dr. J. Williston Wright, Chairman; Dr. W. Duncan McKim, Secretary.

Tardy Constitutional Syphilis.—Dr. L. B. Bangs related the case of a man who had a sore on the pubic region in 1872, which healed in a month and was followed by no further manifestations until 1881, when a lump as large as a hazel-nut appeared just over the episternal notch. During the following winter the patient was subjected to hardships and lost strength; at the same time the lump increased in size and became red and painful. A traveling physician opened it and cauterized it, but only a little discharge took place. In a short time a like growth appeared upon the clavicle, became red and painful, discharged, and speedily closed. The patient was now treated for syphilis, and took a Turkish bath every day for four months, but his debility increased. In 1883 he was still growing feebler, and had ulceration of the throat, when he presented himself to another physician, who diagnosticated syphilis, gave mercury in tonic doses, and effected a cure in four weeks.

The peculiar features in the case were the absence of all symptoms during the nine years that followed the initial lesion, and the fact that the scars left by the growths were not circular, but linear.

Apparent Insusceptibility to Syphilis.—The Chairman related the case of a man who became infected with syphilis through a fissure of the lip, had secondary symptoms, and put himself under treatment. Two years later he married a girl fifteen years old. In due time five children were born, and all the time the man presented fresh manifestations of the disease, but the wife and all the children had remained healthy, except that one of the children had died of pneumonia.

Dr. E. G. Janeway had seen reason to think that there were some persons who were insusceptible to syphilis.

Thrombosis of the Venous Sinuses.—Dr. G. M. Swift related the case of a female child, of adopted parents, who was admitted into St. Mary's Hospital for Children August 6, 1884. So far as her adopted parents knew, she had always been healthy until within three weeks of her admission. At that time she began to vomit, without nausea or any apparent reason, complained of headache, and was somewhat dull. There was no peculiar appearance of the face or of the neck. At the time of her admission she was partially blind, there was paresis of the right side, with mental apathy, and her temperature was 99° F. Within a day or two, after having been restless and noisy at night, she had complete paralysis of the right side, including the face, but sensation was not lost. She lay with her head turned to the left; her pupils were dilated, but reacted slightly and sluggishly to a bright light; she moaned when disturbed; she ate, but seemed unconscious; she was constipated, and passed urine unconsciously; there was no increase of temperature; and the pulse was usually slow and full, at times intermittent, again frequent. She lived until August 12th, with no appreciable change in her condition. An ophthalmoscopic examination was imperfect and negative.

Autopsy, August 13th, about eighteen hours after death.—Body fairly nourished. On removing the calvaria, all the vessels and sinuses of the membranes were seen to be turgid with blood. The longitudinal sinus had a firm clot in it. The vessels of the pia, especially posteriorly, were filled with blood, for the most part firmly clotted. The left hemisphere, posterior to the fissure of Rolando, was distinctly softened to the touch and somewhat shrunken. The vessels at the base of the brain presented the same distended appearance as those of the convexity, and there was a firm clot in the basilar artery, together with clots in other vessels. On section, the brain was found intensely congested. The entire left hemisphere, behind the fissure of Rolando, was a soft, diffluent mass, leaving merely a shell of brain substance. At about the junction of the temporal and occipital lobes there was a clot of blood about as large as a Lima bean. The vessels of the choroid plexus were turgid; there was no increase of fluid in the ventricles. Microscopical examination of the softened brain substance showed it to be composed of broken-down brain-cells, compound granular corpuscles, and oil globules. There were some small vessels filled with blood. The skull gave no evidence of disease. The other organs were not examined. Dr. Welch had given it as his opinion that the case was one of simple thrombosis of the venous sinuses. Dr. Swift would now ask if thrombosis of the venous sinuses occurred without injury to the skull.

Dr. Janeway had seen it occasionally, from debility, especially in children, and remembered one case in a woman.

Antipyrine as an Antipyretic.—Dr. George L. Peabody stated that he had first used antipyrine last August, at the New York Hospital, and that during that month and September he had had opportunities of subjecting it to a careful test in conditions of high temperature from various causes. So far as his experience enabled him to judge at the present time, he was inclined to regard it as a very useful drug in the treatment of fever as a symptom, without regard to its essential cause. He had tried it extensively in typhoid fever, in the hectic of tuberculosis, in pneumonia, in rheumatism, in puerperal septicæmia, and in a variety of other conditions, including a severe broncho-pneumonia in a little child. The first publications that he had seen on the subject were from the following German observers, all of which had been reviewed in Friedländer's "Fortschritte der Medicin" for July 15, 1884: Filehne ("Zeitschr. für klin. Med.," Bd. vii), Guttmann ("Berlin. klin. Wochenschr.," No. 20, 1884), Alexander ("Breslauer ärztl. Zeitschr.," No. 4, 1884), May ("Deutsche med. Wochenschr.," Nos. 24–26, 1884), Falkenheim ("Berlin. klin. Wochenschr.," No. 24, 1884), and Rank ("Deutsche med. Wochenschr.," No. 24, 1884). The combined testimony of all these observers was strongly in favor of the new drug, for which we were indebted to Knorr, of Erlangen, who was the first to make it, for it was an artificial alkaloid, made synthetically. Filehne was the first to experiment with it in health and disease, and had arrived at results that justified his recommending it to the medical world. The literature of antipyrine had now increased rapidly, as its effects and uses had been more widely studied and become more generally known, and papers on the subject had appeared from many well-known writers.

In administering the drug, Dr. Peabody had followed the method advised by Filehne, giving three doses, amounting in all to seventy-five or ninety grains, in this manner: at first thirty grains, then, after an hour's interval, thirty grains more, and then, after another hour's interval, either fifteen or thirty grains more. This, he had found, would usually cause a rapid fall in the temperature of several degrees, sometimes six or seven, and at the same time a decrease in the frequency and an increase in the force of the heart's action, as well as an improvement in the tongue and a morbid brightening of the intellectual faculties. In fact, all the usual accompaniments of the defervescence of convalescence manifested themselves, and with no disadvantages, or only such as were trifling. Occasionally the drug was vomited, though only rarely, and then it could well be administered either *per rectum* or subcutaneously. Its ready solubility, together with the fact that it caused, in his experience, no local unpleasant effects, made it specially valuable used in the latter way. It was soluble in half its weight of hot water, and did not crystallize out on cooling. The duration of these good effects was usually from seven to nine hours, and sometimes much longer. Subcutaneously, Dr. Peabody had used it only in single doses of fifteen grains each. Occasionally its use was followed by profuse sweating, and still less frequently by a general exanthematous eruption, an erythema, which caused a very disagreeable itching. The omission of the drug caused a subsidence of this eruption, and it did not always recur when recourse was again had to its use.

He was inclined to believe that by the introduction of this drug a great advance had been made in the treatment of fevers, especially typhoid fever. He alluded to one case of this disease in which the cold bath was quite unavailing, as well as cold sponging, which had yielded promptly to antipyrine, and in which he believed he could have saved the patient had not the supply of the drug become exhausted, so that several weeks had to elapse before a fresh supply could be obtained from Germany. This patient was a young and obese German peasant, whose fat proved so poor a conductor of heat that the cold bath was wholly unsuccessful in conducting off the heat from the interior of the body. He had several times put her, with a temperature of 105° or 106° F., into a bath-tub filled with water at a temperature of 65°, and kept her there ten minutes. On taking her from the tub, the surface of her body would be disagreeably cold to the touch, but her internal temperature would have fallen only a fraction of a degree. At such times antipyrine, administered after Filehne's method, would bring her temperature rapidly down to 98° or 99°, and keep it below 100° for seven hours or thereabouts. After the supply of antipyrine was exhausted, this patient continued to have a persistently high temperature that nothing would affect, and she died of pyæmia, the infection having proceeded from the ulcers to the kidneys. Dr. Peabody merely mentioned this case as one of many in which the beneficial effects of the drug had been very marked. In intermittent fever its effect on the high temperature was equally good, but it had no tendency to avert a subsequent paroxysm.

Among the latest allusions to this subject in medical literature that had come under his notice were two articles by Demme, of Berne, in the "Fortschritte der Medicin" for October 15th and November 1st. The first of these papers was devoted to a description of a very carefully conducted series of experiments upon animals, to test the physiological action of the drug; the second to an account of another set of experiments, quite as carefully conducted, upon patients, to test its therapeutic value. In order not to take up too much of the society's time, he would give only a meager account of Demme's general results. In single large doses (about five grains in frogs, and fifteen grains in rabbits) it produced death by heart paralysis. In somewhat smaller doses the effects were most marked upon the central nervous system, including the vaso-motor centers, namely, general tetanic muscular spasm and increased arterial pressure. Subsequently, if the administration of the drug was persisted in, paralysis of these centers was observed, including loss of muscular reflex excitability, and, notwithstanding the healthy condition of the muscular tissue of the heart, a constant sinking of the blood-pressure in the arteries.

On experimental grounds, Demme recommended, in cases of poisoning with antipyrine, the subcutaneous injection of small doses of caffeine, to increase the excitability of the heart muscle and nervous centers. From these experiments the poisonous dose for a child or for an adult was not to be deduced, but Demme drew the conclusion that to children less than a year old more than three grains, and to those less than five years of age more than seven grains, should be administered only with great care, while for an adult more than thirty grains would require great watchfulness. These conclusions would hardly seem warranted by clinical experience in New York.

In Demme's second paper accounts were given in great detail of twenty-three carefully watched cases in which the drug was given to reduce temperature. Many of his conclusions Dr. Peabody's experience with the drug had already led him to adopt and to state here this evening, but he desired to allude to a few points not already dwelt upon. In erysipelas and acute rheumatism, Demme thought that antipyrine worked with special promptness, and influenced the pathological processes very markedly. In diphtheritic infection and the accompanying threatening weakness of the heart, and in conditions of myocarditis, experience had taught him not to use antipyrine, for obvious reasons. The drug was of use even for children at the breast, was well borne by them, and did not interfere with either the appetite or the digestion. Very seldom it caused repeated vomiting, but ringing in the ears, dizziness, and a sensation of fullness of the head, such as quinine and salicylic acid brought about, did not occur from using this drug. The antipyrine exanthem (erythema) might come on with chills and fever; its longest duration, in Dr. Peabody's experience, was five days.

Dr. Janeway had used antipyrine in several cases. In two cases of typhoid fever the first doses caused great prostration, and afterward a repetition of the doses had the same effect. In a third case of typhoid fever two doses, of fifteen grains each, reduced the temperature from 103° to 94° (in the axilla), with profuse perspiration. In a case of pneumonia three grains, given on the fourth day, brought the temperature down from 104·5° to 99·5°; there was no subsequent rise, and convalescence was speedy. In a second case, also, it seemed to bring on an early convalescence.

The temperature was reduced by smaller doses than the Germans gave, and the reduction was greater than with cold baths. Antipyrine had been used in several cases in the surgical wards at Bellevue Hospital—meningitis, erysipelas, concussion of the spine, etc.—with the effect of reducing temperature, but, unfortunately, the cases were necessarily fatal, and therefore not suitable for testing the drug.

Dr. Beverley Robinson had found it reduce temperature in cases of typhoid fever and phthisis; in the former with rather free perspiration.

Convalescence from Long-continued Broncho-pneumonia.—Dr. L. Emmett Holt related the case of a child, three years old, of good family history, who suffered with whooping-cough during the past summer, followed by the development of broncho-pneumonia in the autumn. Ten days after that measles appeared, which was soon complicated with broncho-pneumonia on the other side. Two weeks later a second eruption appeared, bearing a strong resemblance to that of measles, but accompanied with sore throat; and thereupon the pneumonia began to extend. After ten days desquamation set in, showing the scarlatinous character of the second eruption. After the scarlatina, general furunculosis manifested itself, and twenty boils were opened. After two months and a half of broncho-pneumonia, the child was now convalescent. This was one of those peculiar cases in which pneumonia hung on for months without developing into phthisis.

Abscess of the Liver.—Dr. Janeway had seen eight cases of abscess of the liver within the past few months, the most recent of them being that of a laborer, twenty-six years of age, who had formerly been stout and healthy. He had a habit of carrying weights upon his left shoulder, steadying them with his right hand placed over his head, and he had lately carried a heavy stove (weighing 200 pounds) in this way. For two weeks he suffered from pains in the right side and shoulder, which gradually increased, while his strength failed perceptibly, and he had slight fever and nocturnal perspiration. An examination showed tenderness over the right side, especially in the axillary line, and slight upward enlargement of the liver, which could not be made to descend below the free border of the ribs. The liver, then, was apparently adherent to the diaphragm. The abscess was probably in the convexity of the right lobe. It was aspirated for diagnostic purposes, and a little brownish fluid was withdrawn, which the microscope showed to contain granular matter, oil globules, and cholesterin, but no pus. Acetic acid gave a good coagulum—the mucin reaction. No cause could be found in this case except the strain in lifting, and, doubtless, the traumatism incident to some sorts of work was a common cause of so-called idiopathic cases.

Dr. R. J. Hall asked if there was any ground for suspecting tuberculosis in any of Dr. Janeway's recent cases.

Dr. Janeway replied that there was not.

Dr. Holt asked in how many of these eight cases jaundice had occurred.

Dr. Janeway answered that it had occurred in only one, although one of the others was a case of multiple abscess. None of the patients had any melancholic symptoms.

Cancer of the Rectum.—Dr. Charles B. Kelsey related the case of a woman in whom he had found a scirrhous mass just within the sphincter. It was opened with the Paquelin cautery, when a pouch filled with fæcal matter was found above it, and, still higher, an impermeable cancerous mass. The latter was channeled with the cautery until two fingers could be made to pass. The patient now had painless passages, and for the past eighteen months had enjoyed fair health and comfort. The case showed the advantage of the cautery over colotomy under certain circumstances.

Dr. Bangs mentioned a case in which there was a cancerous mass just above the sphincter, and a second deposit about nine inches up the rectum, in which dilatation with bougies brought about a year of comfort.

Dr. Kelsey thought that dilatation was the best procedure when it was possible, but in cases of scirrhus of long standing it could seldom be carried out.

Dr. Janeway asked if Dr. Kelsey had seen any strictures of the rectum from dysentery.

Dr. Kelsey had seen one case, in a patient who had contracted dysentery while in the army.

Ovarian Cystoma; Twisting of the Pedicle; Peritonitis; Ovariotomy.—The Chairman related the case of a German woman, thirty-six years old, the mother of five children, who, nine months ago, noticed that her health was failing. Three months later her abdomen began to enlarge, and a physician diagnosticated pregnancy. The enlargement continued, with pain, especially on the right side, while menstruation was still regular. On the 20th of July she was confined to bed with pain, but was unable to lie down, on account of dyspnœa. At this time she was seen by the Chairman, who found that she was not pregnant, and diagnosticated a large ovarian tumor and peritonitis. To lessen the dyspnœa, a gallon and a half of fluid was withdrawn by aspiration, and about the same quantity oozed through the opening afterward. He had her admitted into Bellevue Hospital, where, on account of great pain, rapid re-accumulation of the fluid, and intense dyspnœa, he decided to operate at once. This was done on the 28th, in spite of the fact that the patient had just begun to menstruate.

The operation was done under bichloride irrigation. The tumor consisted of one large cyst and hundreds of smaller ones. On opening the abdominal cavity, general peritonitis was found. The pedicle was short and broad, and twisted twice upon itself. It was tied in two portions with braided silk, and the stump was cauterized with a Paquelin's cautery and dropped back into the abdomen. The wound was closed with four deep quilled sutures of wire, pieces of No. 6 rectal bougie serving as quills. The peritonæum was sewed with a continuous catgut suture, and the skin was brought together with interrupted sutures of whale-tendon. The operation lasted an hour and a half. The patient suffered much from shock, but rallied well. For the first twenty-four hours her temperature ranged from 101·2° to 103·75° F. On the 30th (after the use of the cold-water coil) it ranged from 99·2° to 103·75°. On the 31st it was 100°. From this time on it varied between 98·5° and 102·5°. For a week no food was given except by the rectum. On the 16th of August she was discharged cured, and on the 15th of October she was perfectly well.

The points of special interest in the case were the following: 1. The diagnosis. 2. The rapid growth of the tumor. 3. The performance of the operation during peritonitis and menstruation, and the rapid subsidence of the peritonitis after the removal of its cause. 4. The twisting of the pedicle. 5. The method of approximating the peritoneal surfaces.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of October 7, 1884.

Dr. A. Jacobi, Chairman *pro tem.*

Extra-uterine Pregnancy.—Dr. George T. Harrison presented the specimen, for which he was indebted to his friend, Dr. Lindsey, with whom he had seen the patient in consultation. The following history of the case had been written by Dr. Lindsey:

"Mrs. M., married, aged twenty-nine years, has had two living children; no miscarriages. She called at my office February 6, 1884, complaining of dull pain in the right iliac region, back, and rectum. There seemed to be a tendency to hysteria. She had had only a slight flow at her last menstrual period, and was afraid she might be pregnant. Great difficulty attended a vaginal examination, the mucous membrane being hyperæsthetic. The uterus was in its normal position. On its right side a round, soft body could be felt, apparently of about the size of a walnut. Conjoined manipulation was rendered impossible by the rigidity of the abdominal muscles. The patient had not had connection with her husband since the completion of her last menstrual period. I did not think she was pregnant, and considered her case one of chronic oöphoritis. I was called again on the night of the 24th of February. After having been out most of the day the patient was taken with very severe neuralgic-like pains referred to the region of the heart, and suffered from globus hystericus. It was learned from her attendant that the symptoms developed while she was having some dispute with her husband.

"The following week I attended her husband for alcoholismus, and at that time Mrs. M. was not complaining much, but worried a good deal about her husband, and had had one or two hysterical attacks, with pain in the abdomen and rectum. On March 7th she had another attack similar to the first, and from that time the attacks became more frequent, some pain over the abdomen and in the rectum existing in the intervals. The patient was confined to her bed most of the time. On one or two occasions there was some nausea and vomiting, which I attributed to morphine. I had now gained the confidence of the patient, and learned that she was troubled a great deal mentally on account of domestic difficulties, and that the acute attacks were always preceded by mental strain and excitement. At no time was there an increase of temperature. It was almost impossible to make a satisfactory examination of the genital organs, which was attempted on several occasions. On the 16th she had another severe attack, one of her children having had a fall in her presence. She described the location of the pain as being 'in the front and back passages'; also over the abdomen and heart. There was nausea, with pallor and coldness of the extremities. A vaginal examination could not be made, but I thought I could feel a tumor, by external palpation, situated directly over the symphysis pubis. The patient soon felt quite well again, and I left the house with my mind fully made up to call Dr. George T. Harrison in consultation the next day, give ether, and make a thorough examination; but, finding the patient feeling well the next morning, and being busy, I neglected to do as I had intended. The patient awoke at six o'clock on the morning of the 18th, said she had passed a good night, and was feeling well. Shortly afterward she called for the chamber, had some trouble in passing her water, immediately followed by cries of distress and 'Go for the doctor; I am dying!' When I arrived I found her in a condition of collapse, with a hardly perceptible radial pulse, pale and exsanguinated. I at once suspected internal hæmorrhage, ordered external heat, gave hypodermic injections of brandy, ether, etc., and sent for Dr. Harrison, who confirmed my fears of hæmorrhage, and, from the history, suspected extra-uterine gestation with rupture of the sac. The patient gradually sank, and died at 3 P. M."

Dr. Harrison then presented the specimen, which consisted of the uterus, a healthy tube and ovary, and the other tube constituting the sac from which the fœtus had escaped. When he had seen the patient she was in a condition of collapse, and the question might now be asked, What would have been the proper mode of treatment? He attempted to make an examination by bimanual palpation, for from the history of the case he had suspected extra-uterine gestation with rupture of the sac. Had he been able to feel the body spoken of by Dr. Lindsey he would have been in favor of operating at once, and he was now sorry that he did not. As it was, the attempt was made to bring about reaction, but the patient sank and died. He did not suppose now, however, that, even if he had operated, the patient would have recovered. He would like to have an expression of opinion upon the propriety of the immediate operation. This plan had been first carried out with success by Mr. Lawson Tait.

Dr. Bache McE. Emmet thought that if it was evident hæmorrhage was not progressing we might safely adopt the expectant plan, and postpone the operation until reaction had set in. But if hæmorrhage was abundant, and collapse and death imminent, no further danger could be incurred by performing immediate laparotomy, and the operation might save the patient's life.

Dr. James B. Hunter also thought that, if hæmorrhage was still taking place, the case would be similar to one in which an artery of the pedicle of an ovarian tumor had been left open after ovariotomy; if the operation was deferred, there would be very little chance for reaction.

The Chairman said, with regard to the history of laparotomy after rupture of the sac in extra-uterine pregnancy, that the late Dr. Stephen Rogers, of this city, was the first to bring it prominently forward, which he did about twenty-one years ago, in a paper read before the Academy of Medicine.

Laparotomy; Remains of an Extra-uterine Pregnancy.—Dr. Henry D. Nicoll presented the body of a uterus removed by Dr. Thomas from a patient that afternoon. Laparotomy was performed for the removal of a cyst, the diagnosis in the case, however, being doubtful. It was ascertained, on opening the abdomen, that the cyst was in connection with the uterus, growing from the left horn. The adhesions were found to be so great after emptying the cyst of its contents that it was necessary to clamp the uterus. There were three or four mucous polypi in the uterine cavity, and a fibroid of considerable size in its walls. From Douglas's *cul-de-sac* were removed three or four pieces of bone, apparently consisting of the parietal bones of a fœtus of the fourth or fifth month. Dr. Thomas had remarked at the time of their removal that they were undoubtedly the remains of an extra-uterine pregnancy. The cyst was a fibro-cyst, with very tense walls.

Absence of Vagina, Uterus, and Ovaries in an apparently Well-built Woman.—Dr. Henry J. Garrigues read the history of a case, which he wished to reserve for publication, and remarked that it was well known that absence of the vagina, and even of the uterus and ovaries, was not a very rare condition. He presented the case because it was usually said that there should be some signs pointing to such a condition in the appearance of the patient; especially that there should be a weakly, imperfect general development, absence of the mammæ, etc., but in this case there were absolutely no such signs. Even on examining the external genital organs one would have supposed the patient to be quite normally developed; it was only on searching for the vagina that he discovered the condition described.

The case was also interesting as showing the manner of natural development of the vagina and uterus. One point which had puzzled him a little was the history of the monthly molimen, for he had been unable to find any trace of ovaries. The patient, however, had some headache and general malaise almost constantly, and we could easily imagine that these symptoms might be increased a little every month.

The question might arise whether he was warranted in telling the patient that nothing could be done for her. Of course, if a uterus had been found, the treatment would have been to make an artificial vagina; but would it be proper to make an artificial vagina for the sole purpose of coition? He thought not; the woman would be exposed to much danger thereby. The operation itself would be dangerous, and the act of copulation in this artificial canal would expose her to constant danger.

(*To be concluded.*)

CHICAGO MEDICAL SOCIETY.

Meeting of January 5, 1885.

(*Concluded from page 76.*)

Manganese as a Remedy in Menstrual Troubles.—Dr. F. H. Martin read a paper in which he alluded to a former publication of his own on the subject, in the "Medical Record" for September 29, 1883, and stated that, having continued his observations, he felt able to add much confirmatory evidence of what he had already advanced. He was convinced that manganese would relieve certain forms of menorrhagia and metrorrhagia, as well as amenorrhœa. As these conditions depended upon so many different causes, it was quite necessary to point out exactly the states in which manganese was indicated. He had been led to regard the remedy, in any form, as a direct stimulant to the uterus and its appendages. It might act as a direct vaso-motor-nerve stimulant to the vascular system of these organs, and thus, in consequence of the improved circulation, increase their tone and nutrition; or it might exert its whole force by stimulation of the sexual-nerve ganglia, or possibly the nerve centers. At any rate, its action was prompt and immediate on the tonicity of the uterus and its appendages when lack of tone was dependent on defective innervation.

The author then read notes of a number of cases, a few of which may be summarized as follows:

Case I.—A girl, eighteen years old, had not menstruated for four months, being phthisical. Permanganate of potassium was given, and menstruation occurred within a week.

Case II.—A woman, twenty-four years old, with an aggravated digestive trouble of some years' standing, had become very irregular, flowing very profusely for a week or two, then scantily for a like irregular period, after which there was either a profuse flow without warning or a complete cessation. This state of things had continued for more than a year, and she was very weak and anæmic. She was given two-grain doses of permanganate of potassium three times a day, dissolved in hot water. At once the menstrual irregularity disappeared and her general health improved.

In young girls who were irregular in the early months of menstrual life, from natural weakness of the partially developed organs of generation or an over-worked nervous system, the organs were robbed of their natural nerve force. Permanganate of potassium seemed to possess the stimulating properties requisite to bring about a healthy action. A typical case was that of a young woman who had menstruated but once, after which eight months had passed without a flow. The permanganate was given in two-grain doses twice a day, and she menstruated for a second time within a week. In two other cases of missed period in young girls, without any apparent cause or any other symptoms, the remedy was given before the next period was due, and with success. Many like opportunities of testing the drug had occurred, and the results had invariably been good.

Patients who suffered with suppression or excess of the menstrual flow as the result of exposure to cold would invariably be found to have weak and susceptible menstrual organs. In such cases the action of manganese was most prompt and gratifying. In the author's experience there had been no failure, provided the trouble was due to the effects of cold alone. The permanganate was given in large doses, and its almost magical effect was shown by the appearance of the flow within twelve hours.

Manganese was an efficient remedy in certain forms of menorrhagia and metrorrhagia. Although menorrhagia and amenorrhœa were exactly opposite manifestations, they very often depended upon the same causes. When the cause was anæmia or any depressing constitutional disease, producing a perversion of the functional activity of the organs, the perverted action consisted of an irregular or excessive flow, and it would yield as readily as the opposite condition to the stimulating action of manganese.

Case III.—A woman, twenty-six years old, had excessive and irregular menstruation. She had been married two years, and had a child a year old, large and strong, while the mother was of slight build. For ten months she had stood the drain of nursing this child very well, but then she began to fail, suddenly became anæmic, and flowed excessively. She applied at the South Side Dispensary, and was given two-grain doses of permanganate of potassium four times a day, all other treatment being discontinued. In three days she returned, saying that the flow had ceased the day after she had got the medicine. She continued the treatment, and her relief was permanent.

Case IV.—A large, stout woman came to the dispensary, suffering from menorrhagia. She was thirty-five years old. Her menstruation was regular as to time, but the quantity was alarmingly excessive. She was married and had three children, the youngest being three years old.

Her menstrual trouble had been coming on by degrees for a year. The uterus was slightly enlarged and soft to the touch, but nothing else abnormal was discovered. Four days before an expected flow she began taking the permanagate in two-grain doses three times a day. Menstruation came on at the proper time, and, after a normally free flow for four days, passed off naturally. The treatment was repeated at her subsequent periods, and with the same result.

After having cited a number of other cases of his own, the author alluded to some that had come under the observation of his friend, Dr. S. F. Bradley, which may be summarized as follows:

Case V.—Mrs. D., aged thirty-three, was treated during the winter and spring of 1883 for chronic endotrachelitis and endometritis. She had had good health until the August before, when she was taken with menorrhagia, which lasted six days before medical advice was sought. She was given ergot and gallic acid, in succession; hot injections of dilute tincture of iodine were thrown into the uterine cavity; and finally the vagina was tamponed; but the hæmorrhage still continued. She was then ordered two-grain capsules of permanganate of potassium every three hours, and the flow ceased soon after she had taken the second capsule.

Case VI.—Mrs. F., aged thirty, made her first call January 19, 1884, having miscarried at the third month three weeks before. On the day of her first visit she had begun flowing excessively, and was suffering much pain in the uterine region. A small piece of placental tissue was discovered and removed. The flow then ceased, and she continued to improve until the 24th of February, when excessive menorrhagia began. Teaspoonful doses of fluid extract of ergot were given every two hours during the night, but there was no cessation of the flow. The next day, two-grain capsules of permanganate of potassium were ordered, and the hæmorrhage ceased in two hours after the first one had been taken.

Case VII.—Mrs. McF., aged thirty, the mother of two children, the youngest of which was eighteen months old, began flowing in the middle of September, 1883, but did not seek medical advice until the 15th of October, when the hæmorrhage had rendered her extremely weak and anæmic. She was given ergot and elixir of iron, quinine, and strychnine, and these were continued for ten days with no benefit. Ergot was then tried with gallic acid, but with no amelioration. Careful examination revealed no enlargement or tenderness of the uterus, but there was a very slight laceration of the cervix. On the 28th she was directed to take a two-grain capsule of permanganate of potassium every four hours. One hour after the first capsule had been taken the flow ceased suddenly. The capsules were continued until three or four had been taken, and her health had since remained good.

Case VIII.—Mrs. B., aged thirty-five, the mother of five children, the youngest of which was two years old, had a deep laceration of the cervix, with chronic endotrachelitis and metritis, also slight prolapse. She had previously been treated for uterine trouble. An operation on the cervix was advised, to which she demurred. During the month she was taken "unwell." The flow was very profuse, and continued for several days before she sought advice. Ergot and mineral and vegetable astringents had no effect. The permanganate of potassium was then tried, in two-grain doses, and shortly after the first capsule was taken the flow began to diminish, and it ceased entirely after the third dose.

Although, like nickel, zinc, iron, and silver, manganese acted as a tonic to the blood in cases of anæmia, chlorosis, etc., it could not be owing to that fact alone that it exerted its peculiar influence on the catamenia, for its action was too prompt. It might be given in the form of the permanganate of potassium or as the binoxide of manganese. The former should be dissolved in water, and, when possible, it should be given after meals. It could also be prescribed in dry gelatin capsules, but it was less likely to irritate the stomach if it was diluted. The binoxide, although less readily absorbed, on account of its insolubility, was not irritating, and could readily be administered in pill form.

Dr. Paoli had used manganese for the past two years, and had found it act very well in some cases of suppressed menstruation from the effects of wet and cold, but in some instances it had had no effect. In one case he had given it for a month, a grain three times a day, in another two grains, in another a quarter of a grain three times a day for two months; and in all the cases menstruation had returned in time.

Dr. J. Havens had treated over fifty cases of menstrual difficulty with permanganate of potassium, and had been much pleased with the results. In the majority of his cases menstruation had been suppressed or retarded from the effect of cold.

New Inventions, etc.

IMPROVEMENTS IN THE CONSTRUCTION OF THE HIP SPLINT.

By A. B. Judson, M. D.,

orthopædic surgeon to the out-patient department of the new york hospital.

The object of this form of construction is to diminish the weight of the hip splint, while retaining its strength and inflexibility by disposing the metal so that it shall resist to the best advantage the strain to which it is subjected. When a hip splint is made strong enough in the pelvic band and upright to perform the function of an efficient ischiatic crutch, preventing the patient's heel from reaching the foot-piece of the splint in walking or running, it is found necessary to give considerable weight to the apparatus when constructed, as it often is, with a round upright, or with the flat side of the upright toward the patient's limb. If the upright is made flat and attached to the pelvic band in such a way that its edge is toward the patient, it is practically inflexible, and the amount of steel used in its construction may be greatly reduced. The metal may be thinner even than is shown in Fig. 2.

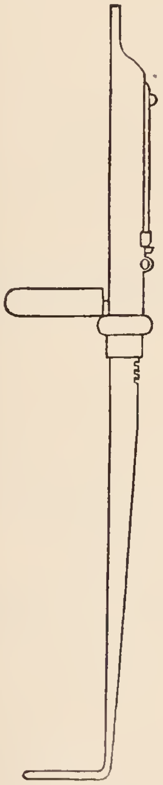

Fig. 1.—Front view.

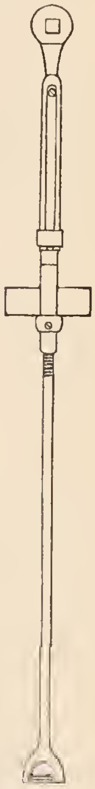

Fig. 2.—Side view.

Having the rack at the upper part of the splint, as shown in the cuts, further reduces the weight of the apparatus by allowing the upright to taper rapidly toward its lower end, and also puts the heavier portion of the upright near the center of gravity of the body, where it is carried more easily than when massed near the patient's foot.

I have applied fifteen splints constructed on this plan. Some of them have been in use more than a year and a half, and have demonstrated that the changes indicated above are improvements.

The cuts also show a U-shaped attachment, previously described, for more completely arresting motion in the joint. It has been in use nearly five years, and has proved its value. It is adjustable vertically on the barrel of the upright, and takes the place of the flexible device known as the knee-cap.

Miscellany.

THERAPEUTICAL NOTES.

Oxide of Zinc in the Treatment of Wounds.—Socin ("Deutsche Med.-Zeitung") speaks highly of this substance as an antiseptic in surgical practice. For the irrigation of deep wounds he uses a one-per-cent. mixture with water; superficial open wounds should be washed with a ten-per-cent. mixture. Large raw surfaces, burns, contusions, etc., are dusted with the powder. As a permanent dressing, the writer recommends a paste composed of fifty parts, each, of water and oxide of zinc, and five parts of chloride of zinc. It forms a dry coating, beneath which healing takes place with unusual rapidity. Stress is laid on the fact that zinc is of little service in the case of a wound that is already septic.

Aseptic Silk for Sutures.—Partsch (*Ibid.*) recommends that ordinary silk be soaked for two days in a ten-per-cent. solution of iodoform in ether, and then dried by wrapping it in blotting-paper. The advantages are said to be that it can be kept for a long time without deteriorating, and that it does not cause suppuration when left in a wound. It is consequently useful in the operation for laceration of the cervix uteri.

Jaborandi in Erysipelas.—Dr. Sydney Thompson ("Therap. Gazette;" "Edinburgh Med. Jour.") suggests the following formula:

Fluid extract of jaborandi	24 parts;
Laudanum Glycerin } each	4 "

This mixture is to be painted over the affected surfaces every four hours.

Oil of Peppermint in Burns.—Brame (cited in the "Lancet") recommends this drug as an external application in cases of burns. The burned surface is moistened with water, and then painted over with the oil, the effect being to relieve the pain very quickly.

Teucrium Scordium in Hæmorrhoids.—Murjohn ("Lancet") uses this drug (the water germander) internally, in doses of two teaspoonfuls of the liquid extract. An external application is prepared by incorporating one part of the powdered root with nine parts of vaseline.

Verbena as a Sudorific.—*Verbena hastata* is recommended by Weber (*Ibid.*) as a valuable sudorific, when given in doses of half a drachm or a drachm of the fluid extract.

The Active Principles of Ergot.—Roberts (*Ibid.*) has isolated cornutine and ergotinic and sphacelinic acids from this drug, the first mentioned being a very powerful alkaloid. In minute doses it occasioned marked contractions of the smooth muscular fibers of the uterus and the arteries.

Benzoic Acid in Alkalinity of the Urine.—The "Gaz. hebd. des sci. méd. de Montpellier" cites the following formula, which is credited to Billroth:

Benzoic acid	15 grains;
Syrup of raspberry	3 drachms;
Distilled water	3 ounces.

The entire amount is to be taken in the course of twenty-four hours. In the same article, Fraene's formula is given, as follows:

Benzoic acid	75 grains;
Confection of roses	q. s.

Divide into fifty pills. Dose, two to eight pills daily.

An Application for Painful Dentition.—According to the "American Journal of Pharmacy," Hager recommends the following:

Chloroform	ten drops;
Tincture of Spanish crocus	half a drachm;
Honey	half an ounce;
Glycerin	one ounce.

To be rubbed on the gums, to allay irritation.

Ointment for Ecthyma.—The "Union médicale" credits Besnier with the following formula:

Phenic acid	30 grains;
Starch Vaseline } each	3 ounces.

Valoid of Coca is mentioned by the "Lancet" as a "new and reliable preparation," and is specially recommended for nervousness and sleeplessness from mental causes.

The Therapeutic Properties of Thyme.—Camperdon ("Bull. gén. de thérapeut.") concludes a long article on this subject with the following deductions: 1. In therapeutical doses (three to fifteen grains), the essence of thyme causes mental excitement or stimulation; hence it is a valuable diffusible stimulant in depression following anæmia, in conditions of collapse, etc. 2. It is an active diaphoretic and diuretic. 3. From its direct action upon mucous surfaces it is to be recommended in catarrhal affections of the respiratory and genito-urinary tracts. 4. It is a prompt hæmostatic. 5. Thyme possesses powerful antiseptic properties, and is well adapted for use in surgery. 6. It is recommended that the internal administration of the drug be supplemented by its employment in the form of baths, fumigations, and inhalations.

Cold in the Treatment of Sciatica.—Debove ("Prog. méd.") recommends the direct application of cold along the course of the sciatic nerve, and especially over the painful points, by means of a spray of chloride of methyl. He reports several successful cases. The atomization is continued until the patient complains of a burning pain over the seat of the application.

Thalline.—Huchard ("Union méd.") contributes some observations upon this new alkaloid, which has recently been brought into general notice by Dr. Jacksch, of Vienna. He concludes that the drug is a valuable antipyretic when administered in doses of from four to eight grains, the sulphate of thalline being the most reliable of the several compounds. The fall of temperature occurs in the course of two or three hours, and is frequently followed by copious perspiration. No unpleasant after-effects have been observed, as in the case of kairine.

Resorcin as a Hypnotic.—Andeer ("Prager med. Wochenschr."; "Centralbl. f. klin. Med.") calls attention to the fact that pure resorcin, in carefully regulated doses, possesses valuable hypnotic properties. He has employed the drug in several cases, with good results.

The Retirement of French Professors.—A bill has been passed by the French Chamber providing for the retirement of professors at the age of seventy; the Minister of Public Instruction retains the right of retiring any professor before that age whose teaching is not abreast of the times.—*Medical Times and Gazette.*

Baltimore Medical Societies.—We learn from the "Maryland Medical Journal" that the Medical and Surgical Society of Baltimore has elected the following-named gentlemen to office: Dr. A. F. Erich, president; Dr. W. H. Norris, first vice-president; Dr. James F. McShane, second vice-president; Dr. A. T. Shertzer, treasurer; Dr. C. B. Ziegler, corresponding secretary; Dr. C. H. Jones, recording secretary; and Dr. George H. Rohé, reporting secretary. The same journal states that the Baltimore Medical Association has elected the following-named officers: Dr. J. T. Smith, president; Dr. J. E. Gibbons, vice-president; Dr. G. H. Chabot, recording and reporting secretary; Dr. J. T. King, corresponding secretary; and Dr. J. L. Ingle, treasurer.

THE NEW YORK MEDICAL JOURNAL, JANUARY 31, 1885.

Original Communications.

ON THE PATHOLOGICAL ANATOMY OF SENSORY APHASIA.*

By R. W. AMIDON, A. M., M. D.,
NEW YORK.

Case I.—*Personal Observation.*—Mary A. S., aged sixty, married, a native of England, and a housekeeper, consulted me June 10, 1882.

She had been perfectly well up to the time of her menopause, nine years before. Since then she had been subject to the hot and cold flashes, various other paræsthesiæ, and the discomforts of flatulent dyspepsia incident to that period.

April 29th (six weeks before I first saw her) she was seized with a bad headache, worse on the left side. The headache and vertigo continued for three days, and then she became "flighty" and incoherent, and has remained so since. Her dyspepsia became worse after the nervous attack, and frequent vomiting was superadded to the flatulence; she also became very excitable.

Her daughter thought she never had any delusions.

On the first examination I found the patient very excitable. The facies was intelligent and inquiring. The right palpebral fissure was smaller and the right pupil was larger than the left. The tongue deviated slightly to the right. The right hand was not so much stronger than the left as it should have been, and was slightly tremulous. There had never been any tendency to use the left hand instead of the right, which she used as well as ever. There was never any weakness or dragging of the right lower extremity. In short, there were no marked disturbances of motility, either paralysis or spasm. The fundus oculi was normal, and the acuity of vision, as far as could be ascertained, perfect, though her daughter said her mother used to darn white stockings with black yarn.

It was a perversion of speech which most attracted my attention. The disturbance seemed at first a sort of incoherence; but a short observation demonstrated the fact that it was *only* when answering questions that the patient spoke incorrectly. Knowing the patient's peculiarity, the history of the case had been obtained from a very intelligent daughter, and then, to test the patient's speech, she was asked: "What is your name?" To which she replied interrogatively: "Is it Mr. —— that you are talking about?" and that same answer generally followed that question. When asked her age, an equally inapropos answer invariably followed. When asked to name different objects about her, she usually designated them by numerals. The object would have to be brought to her attention especially before she would notice it at all. She could not count or say her letters. She used no long words, and very few nouns.

With all these peculiarities of speech, it was soon seen that, when she spoke of her own accord, her remarks were connected and perfectly intelligible. She voluntarily described to me, in correct language, how much she suffered from headache, and also complained repeatedly of the functional disturbances of the change of life, the hot and cold flashes, the flatulent dyspepsia, and the borborygmi, which latter, by their activity and their location, made her and her friends believe that an animal of some sort lived in her left lumbar region. She called her daughter by name, and knew all her friends, except her husband. She repeatedly asked who he was, and why he was about, etc. Her son she seemed to know; but she always called him "father." As a general thing, she would not call things by wrong names unless questioned. Her hearing was apparently of normal acuity, as she started at slight noises, and her attention was easily attracted. Many noises, particularly those of articulate speech, were undoubtedly to her unintelligible sounds, because her manner and blank expression, when talked to or questioned, showed how little she understood. Occasionally, when asked by her daughter to help her about the house (sweep or make beds), she would answer: "Oh, yes, I'll do it; anything to help you"; but, as a general thing, understood nothing said to her unless it was emphasized by explanatory gestures. Gestures she understood perfectly. When induced to read aloud, she spun out a perfectly senseless jargon of words. She very seldom could tell the time of day by a watch or clock. She could not be trusted to go about the streets alone, as their numbers and that of her house were illegible to her, and also she could not answer questions intelligibly. She could not write from dictation, and never could be induced to put her thoughts or wants in writing, being in the habit of writing very little when in health. She was repeatedly seen to take things—knife, fork, broom, etc.—by the wrong end. She preserved her appreciation of music, and would sing correctly.

From the onset of her trouble she was subject to periodical attacks of a spasmodic nature, generally occurring about once a month. They consisted of a cry, a drawing up of the right hand, and a drawing of the mouth to the right. According to the daughter, this period lasted several minutes, when general convulsions ensued, lasting a longer time. During the fit, involuntary evacuations sometimes occurred. The patient said that the right hand was numb before the spell.

February 15, 1884, she was seized with convulsions at seven in the evening, which constantly recurred until eleven the next morning. Then she fell into a comatose state, characterized by very forced respiration, which lasted until seven in the evening of February 16, 1884, when she died, fifteen months after her first attack.

For a description of her final illness I have to depend entirely on the family, and they say that during the last twenty-four hours she passed *very little* urine.

The woman, dying without medical attendance, became a coroner's case, and I was allowed to assist at the autopsy. The kidneys were the seat of quite advanced interstitial changes, being rather small, and having atrophied cortices. The right cerebral hemisphere was normal.

The surface of the left hemisphere, on being exposed, was seen to be the seat of an irregular depression, which was shown, on removal of the brain from the skull, to be caused by a destruction of the inferior parietal lobule, the entire angular gyrus, the posterior three fourths of the first temporal convolution, the upper and posterior half of the second temporal convolution, and a part of the second occipital convolution. (See Fig. 1.)

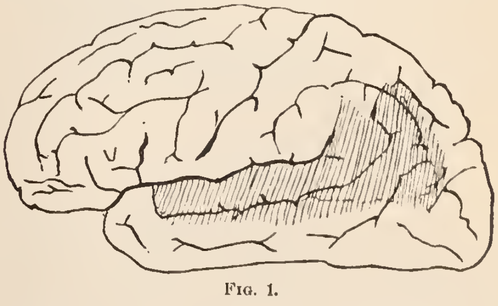

Fig. 1.

The depressed area contained a tenacious mass of tortuous blood-vessels, and folds of opaque and thickened pia mater. The rest of the cortex, including the convolutions of the insula, was normal.

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* Read before the New York Academy of Medicine, November 6, 1884.

The large cerebral arteries were the seat of extensive soft atheromatous changes, arranged in many places in the form ot rings encircling the vessel, and in some localities markedly encroaching upon the lumen of the vessel. The terminal branch of the left Sylvian artery was occluded by a thrombus.

Case II.*—A male of sixty-two had for six years had frequent attacks of vertigo which lasted several seconds.

In March, 1882, he was suddenly seized while at supper. His wife noticed that he became pallid, his head drooped, and he remained motionless. She spoke to him in vain, and he fumbled automatically with his napkin.

He dragged his right leg a little in walking. He was speechless; he recognized persons and objects, and also their names when they were pronounced before him. The hemiplegia disappeared, but the aphasia remained unchanged.

He entered Hôpital St. Louis November 11, 1882. His understanding of words seemed greatly compromised. Often he seemed to understand, but his replies, spoken or gestured, were rarely satisfactory. To the question, "How are you?" he always replied: "Pretty well: a little better." He could not find the name of things which were shown him. If he was told, he made an affirmative sign and said: "Yes, that is so." He could not tell his name, but if it was pronounced he said: "That's so; that's well." When tired with attempts to talk, he swore in German; but he was aphasic in that tongue too. His writing was a shapeless scribble. When asked to protrude his tongue, he curled it up on the roof of his mouth.

On admission there was no marked hemiplegia, no facial deviation, no disturbances of sensibility, and the reflexes were only a little exaggerated. His general health was good. Day and night he was in a state of incessant agitation.

Later in March his speech was more embarrassed; he became more melancholic.

July 2, 1883, he died of congestion of the lungs.

On autopsy, the heart was found loaded with adipose tissne. There were two small, very superficial yellow patches, scarcely a millimetre square, at the upper and posterior angle of the left third frontal convolution, right next to the fissure which separates it from the second frontal convolution.

An immense patch of softening occupied nearly all the first temporal convolution, the parallel fissure, and the upper part of the second temporal convolution. Backward it destroyed above the lower part of the inferior parietal lobule and the sigmoid gyrus, and below the posterior part of the second temporal convolution. (See Fig. 2.) The frontal convolutions and central ganglia were intact. The softening occupied the region supplied by the fourth branch of the Sylvian artery, which was calcified throughout, and completely obliterated at the border of the yellow patch.

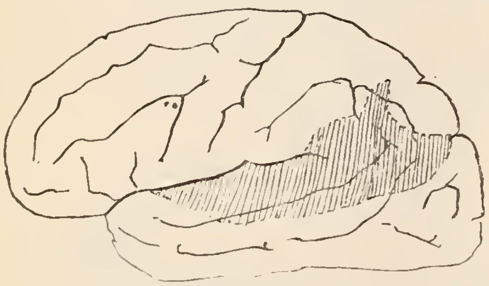

Fig. 2.

Case III.*—A waitress, aged twenty-four, with previous good health, had coughed for four months. On October 12, 1881, she suddenly became speechless. She immediately entered the service of M. d'Heilly at Hôpital Saint Antoine.

The summit of each lung was found in the second stage of tuberculosis. The heart was normal. The temperature 38·5° C. To all questions put to her she would repeat five or six times, with different intonations, "Because, because, because." Sensibility and motility seemed perfectly intact.

October 15th, in answer to a question, she answered: "Thank you, sir, I am better." She looked very intently at the speaker, but the words seemed to wake in her no image, no remembrance. When told to put her hand on her head she hesitated an instant and appeared to be trying to remember something, but she remained motionless. When the command was accompanied by a suggestive gesture, she quickly obeyed. Hearing and vision were both preserved. Her power of calculation seemed preserved, as she could play *écarté* skillfully, making no errors as to color or value.

When asked, she called her knife, tumbler, food, wine, and plate each "du plan." When an orange was held out to her she answered all questions "Yes, sir," and reached for the orange. Once when her soles were tickled she said: "Please don't, sir." She could not copy, write from dictation, nor read. Smell, taste, and acuity of vision were not very completely studied.

She died, November 3d, of marasmus.

There was found, on autopsy, a thrombosis of the fourth branch of the left Sylvian artery. There was softening of the territory supplied by the obstructed vessel, the upper posterior half of the first temporo-sphenoidal convolution, most of the inferior parietal lobule, the supra-marginal gyrus, and some of the sigmoid gyrus. (See Fig. 3.) The softening affected only the cortex, and, on section, was seen to implicate only the extreme posterior, hidden part of the insula.

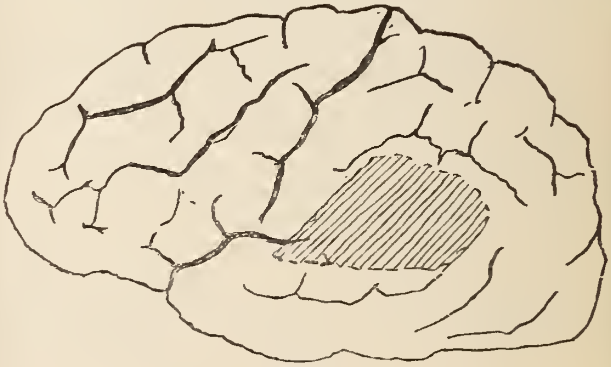

Fig. 3.

Case IV.†—Male, fifty-two, had "brain fever" when a child. Had also repeated attacks of inflammatory rheumatism and gout, and was subject to flatulent dyspepsia.

On February 1, 1878, was exposed to cold and thoroughly chilled. February 11th, he was found lying on a lounge talking unintelligibly. Was conscious, but unable to answer questions except by a confused muttering, and there was an incomplete right hemiplegia and hemianæsthesia. He made himself understood by gestures.

The next morning he complained of pain in the left frontal region.

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* "Contribution à l'étude de l'aphasie," par M. F. Balzer. "Gaz. méd. de Paris," 1884, ix, 97.

* "Note sur un cas de cécité et de surdité verbales," par MM. d'Heilly et Chantemesse. "Prog. méd.," 1883, xi, 22–25.

† "A Contribution to the Study of Aphasia, with special reference to 'Word-deafness' and 'Word-blindness.'" By A. B. Ball, M. D. "Archives of Medicine," v, 1881, p. 136.

His general health was restored in six weeks, and there remained only slight paresis of motility and sensibility on the right side, and the aphasic state.

At first he had complete aphasia and agraphia. Little by little he began to talk and extend his vocabulary, until, in the summer of 1879, he generally succeeded in expressing his ideas fairly well, and, in talking to laymen, it was sometimes not noticed that he was aphasic at all. He did not substitute the wrong words much. At first he could not read, but he reacquired the power partially only; there were always some long words in every sentence that he could only understand from the context. After several months he could copy, and even write short sentences of his own composition, but with great difficulty. Writing from dictation was impossible. In talking or writing he had a great tendency to substitute numerals for other words.

He understood gestures, and was always capable of expressing his ideas by them.

He had partial word-deafness from the start. He said: "The words I can't pronounce are the words I can't *hear*." Not all, but only some words were unintelligible to him. Sermons or lectures were to him a meaningless jargon.

Sight and hearing were unimpaired. He had no hemiopia. His appreciation of music was well preserved, as also were his memory and ordinary intelligence.

He showed a tendency to reverse the position of things he held, unless he looked at them. This was evidently due to an impairment of muscular sense. There was no common anæsthesia.

In March, 1880, he had another attack. While at dinner he suddenly turned to the right and began muttering incoherently. The attack, he said, began with a noise in the head like a pistol-shot. Immediately he heard some one talking over his right shoulder, and turned to see who was addressing him.

In May he was seized with symptoms pointing to endocarditis—perhaps myocarditis—and was much prostrated, and complained of mental confusion. On one occasion he had a marked rotatory phenomenon—rolling over and over to the right rapidly. On June 19th he suddenly became totally blind, but gradually regained his vision in two hours, and died suddenly half an hour later.

On autopsy, it was found that the internal carotids were extremely thick and quite rigid, but not calcareous.

An area of softening in the left hemisphere covered the inferior parietal lobule and the posterior part of the first temporal convolution—parts supplied by the terminal branches of the left Sylvian artery. (See Fig. 4.)

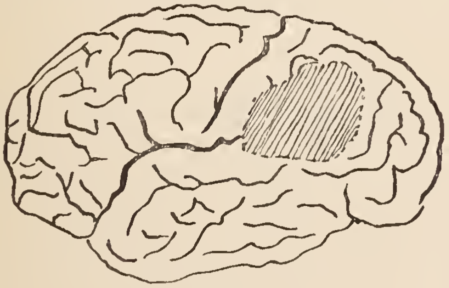

Fig. 4.

Case V.*—Waiter, aged forty-four. He had been an excessive drinker of wine and beer for a long time. His health had commenced to fail three months before admission. He became short-breathed, and his ankles swelled toward evening. Afterward œdema invaded his lower extremities, genitals, and abdomen. In short, all the signs of general venous stagnation and slow and progressive asystole.

The liver was large and sensitive to pressure. The urine was scanty, dark, and albuminous. The respiration was short and rapid, and large subcrepitant râles were heard in the lower lobes of both lungs. The face was cyanosed, and a false venous pulse was present in the jugular veins.

No valvular lesion of the heart could be detected, but the beat was soft, irregular, unequal, and diffused. The patient was kept quiet, and put on milk diet, infusion of digitalis, and drastic purges. For three months the symptoms gradually improved without entirely disappearing. Six or eight litres of ascitic serum were withdrawn by several punctures.

One evening, without warning and without loss of consciousness, the patient suddenly lost the power of speech and the use of his intellectual faculties. The next morning he was found sitting up, immovable, his elbows on the bolster, his eye fixed on vacancy, apparently lost in thought. He saw nothing, heard nothing, and appeared to have no consciousness of what surrounded him.

If spoken to loudly and repeatedly, he turned toward the side from which the sound came, but appeared to understand nothing that was said to him. The pupils were moderately dilated and immovable. The eye was vacant, and did not follow objects which crossed his visual field, but was not amaurotic, because he took his glass or napkin and other things which he needed. There was a partial ptosis on the right side. The patient's motor power was unimpaired. If the skin was pricked, the part was slowly withdrawn, but no signs of pain were manifested.

The respiration was calm, deep, and regular; the heart's beat was soft and arhythmical, and there was a doubtful soft murmur at the apex. The urine was still albuminous.

The treatment consisted of alcohol.

The next two days the patient remained in the same condition, oblivious of surroundings and unmindful of peripheral excitations. He remained silent, or mumbled incoherently, or repeated, mechanically and with the same monotonous tone, "I am better, I am better." The fundus of the eye was normal.

On the third day the cerebral torpidity was more marked, and the patient remained somnolent and half-comatose. Being bled 300 grammes gave no relief.

In the evening, after two or three slight convulsive attacks, death supervened. During the illness of three days the temperature oscillated between 37° and 37·5° C.

On autopsy, the heart was found to be enormous and overloaded with subpericardial fat. The cavities were dilated and filled with clots. The wall of the left ventricle was 1·5 cm. thick, but flabby and soft. The orifices and valves presented no lesion, only the tricuspid valve appeared enlarged by a simple distension of the fibrous ring upon which it was inserted.

The arch of the aorta was cylindrical and slightly dilated. Its walls were thickened, and the intima was the seat of cracked, calcareous patches, also yellow and fresh and friable gelatinous patches. On the upper wall was a loss of substance covered by a blood-clot. There was a small, yellowish patch at the origin of the left Sylvian artery.

In the cortex of the left hemisphere was a patch of red softening in the parietal lobe. (See Fig. 5.) It was bounded above by the interparietal fissure, while below it overlapped the upper extremity of the parallel fissure and parts of the first and second temporal convolutions. The patch was nearly round, and about three centimetres in diameter. It involved the entire thickness of the gray matter, and invaded slightly the subjacent white matter. Embolism, if it existed, could not be demonstrated.

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* "Note sur un cas de cécité et surdité cérébrales (cécité et surdité psychiques)," etc. A. Chauffard, "Revue de médecine," 1881, p. 939.

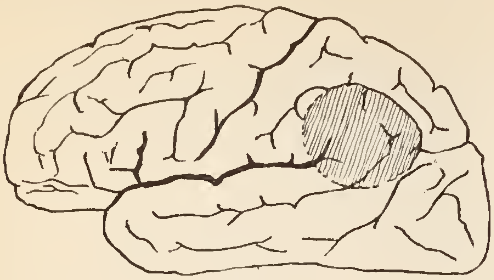

Fig. 5.

There was a large nutmeg liver, with indications of perihepatitis and perisplenitis, congested lungs, and congested and fatty kidneys.

(*To be concluded.*)

THE MANAGEMENT OF THE ABSCESSES OF HIP DISEASE.*

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The present paper is founded on the study of a number of cases of hip disease in which the discharge of pus was a prominent feature. I hope to draw from a consideration of these cases, which occurred in my own practice, certain conclusions of practical value.

I have excluded those cases in which there was reason to believe that the pus was the product of inflammation of the soft tissues alone. Cases of peri-articular inflammation may perhaps properly enough be called instances of hip disease. They sometimes present serious and alarming symptoms, but the comparative brevity of the affection and the subsequent integrity of the functions of the joint are sufficient evidence that the disease is not that insidious and destructive hip disease which begins in the bony tissue and pursues a slow and baleful course through the structures of the joint until the usefulness of the part and the symmetry of the body are compromised. The cases which have been reviewed in the preparation of this paper belong to the latter class.

These cases stand over against a class of cases of osteitis of the hip in which abscesses did not occur, or, if they occurred, took the form of fluctuating tumors, which were absorbed. From the nature of the case, it is not possible to demonstrate that the occurrence of abscesses in this disease can be prevented by treatment, as it may be said of a given patient who escaped abscesses, that he may have been the subject of a dry inflammation, and would have escaped them in the absence of treatment. It has been observed that this complication happens in some cases early and in others late in the course of the disease. This fact suggests the thought that the character of the inflammation, whether dry or purulent, depends on the diathesis or the general condition (liable to change) of the patient rather than on any change that may be effected in the tissues of the diseased hip.

If it is possible for abscesses to be prevented by treatment, it would seem that the measures adopted in the cases under consideration might reasonably be expected to prevent suppuration in those cases in which it had not already set in. The treatment pursued has been based on pathological conceptions which may be expressed as follows: A center of inflammation appears within the bone and slowly spreads, accompanied by hyperæmia and softening, until the shell of compact bone is perforated, and all the tissues of the joint are involved in the inflammatory softening and disintegrating process. We will leave out of account the questions of the strumous element and the pernicious effects of reflex muscular action. That the pressure from reflex muscular action is not an important element, I have tried to show in former papers.† However these questions may be viewed ultimately, there is no question that the disease, in a great majority of instances, comes to a natural, not fatal termination, as is evidenced by the common expressions, "Nature's cure" and "the natural cure" of hip disease.

Given these pathological elements, treatment presents itself as a matter of course as follows: 1. The increased vascularity attending inflammation in the tissues of the joint requires arrest of motion in the joint, or fixation. 2. The softening of the bony tissue and its increased fragility require that the joint be relieved from the weight of the body in standing, and the direct concussion transmitted up the long bones of the limb from the heel in walking and running. 3. As the cure is to come by natural processes, it is important that the general condition be kept at the highest possible point of excellence. The patient should, therefore, be active out of doors, and enabled to follow the ordinary pursuits of his time of life.

These difficult requirements are so well met by the use of the hip-splint, properly constructed, rightly adjusted, and worn day and night, that the pain attending the disease is mitigated, the duration of the affection is shortened, and the extent of its ravages limited, and it is surmised, with a fair degree of probability, that, in certain cases, abscesses have been prevented. It should not be lost sight of, in passing, that deformity, so liable to follow this disease, is largely prevented by the persistent use of the hip-splint, which also secures whatever mobility may have been left in the joint after the storm of inflammation has swept through it.

At the first glance it would seem that the prevention of abscesses in this disease is extremely desirable. In practice, however, it has been found that a comparison between those cases of osteitis of the hip which are free from purulent discharges and those in which such discharges occur brings to light several circumstances which take away the dread of abscesses, and make their occurrence, if not a desirable event, at least an evil attended with compensating advantages. Their occurrence appears to shorten the duration of the affection. The degree of deformity following treatment depends in no way on the presence or absence of purulent discharges, and the clear picture of pathological anatomy which may be inferred from the presence of sinuses discharging pus, and leading to diseased bone, is not only interesting, but of practical value, as it leads to a cheerful endurance of prolonged mechanical treatment (always more irksome, by the way, to the friends of the patient than to the patient himself), and enables the physician to say with confidence, when the sinuses are permanently closed, that the bone is also firmly and permanently cicatrized.

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* Read before the New York Orthopædic Society, January 29, 1885.

† "St. Louis Courier of Medicine," May, 1881, pp. 367–372; "New York Medical Journal," July, 1882, pp. 1–17; "Medical Record," May 12, 1883, pp. 509–512, July 7, 1883, pp. 1–4.

It follows, then, that the abscesses of hip disease are not to be considered dreadful precursors of a fatal result. In patients treated in accordance with the principles suggested above, a purulent discharge is more or less an inconvenience, but its occurrence, whether from one aperture or many, is not a cause of anxiety. It is exceptionally attended with hectic or emaciation. When these appear, they indicate a condition of the patient serious indeed, but by no means necessarily a result of the abscess. There is no evidence that the discharge, as such, exhausts the strength of the patient. This tradition, like many another, is disproved by experience. The general condition of the patient remains good, and not infrequently it is robust. He continues active in locomotion without the assistance of crutches, excepting the ischiatic crutch of the hip-splint, and follows with success the ordinary pursuits of life. The diseased tissues are defended from motion, and the violence inseparable from standing and walking in the usual way. The morbid process is replaced in time by the reparative process, and cicatrization is established and perfected in bone, connective tissue, and integument. The amount of ultimate deformity does not seem to be influenced by the presence or absence of sinuses, and the cases, few in number, which terminate fatally, give no convincing evidence that the presence of a purulent discharge increases the liability to death.

It may be recalled, at this point, that attempts have been made to establish early communication with the seat of the initial lesion in hip disease by operative interference, thus anticipating the formation of an abscess and its resulting sinus. Such an attempt was made in 1867 by Mr. Kirkpatrick, of Dublin,* who tunneled the great trochanter with caustic and the knife in a case of incipient hip disease; and more recently Mr. Macnamara states that he is in the habit of boring through the trochanter into the head and neck of the bone. In this manner he thinks that we may excite in the part a different action, and often a more healthy one, than that which exists.† If the views which I have expressed above are correct, to the effect that repair depends on some favorable change that takes place in the general condition of the patient rather than on any change which may be brought about in the tissues of the diseased joint, it is difficult to see how the procedure of Mr. Macnamara can hasten, any more than aspiration or an incision, the initiation of the process of repair. It is to be hoped, however, that in a future publication he will give us a report of the result in the cases thus treated.

I am unable to throw light on the interesting but obscure question of the starting-point of the abscesses of hip disease. In very advanced cases the sac of the abscess communicates with the cavity of the joint, and it is surmised that, in cases not so far advanced, the abscess is but a depot for the pus which occupies the cavity of the joint, where it exists as a product of secondary inflammation in the lining of the joint, or as the result of the breaking into the joint cavity of a caseous focus in the bone. But there are reasons for believing that many of the abscesses of hip disease are not connected with the cavity of the joint at all,* being the result, perhaps, of the perforation of the compact shell of the bone below the line of attachment of the capsular ligament, or the result of other less understood processes, as suggested by the fact that fluctuating tumors occurring in the progress of hip disease have been observed to give exit, by aspiration or incision, to fluids at first clear and later purulent.

Although the starting-point of the abscess is uncertain, the location of the discharging aperture is, of course, easily recognized. A classification of the cases under review shows that about 30 per cent. of the sinuses appear on the anterior surface of the thigh, 27 per cent. on the outer surface, including the region of the great trochanter, 20 per cent. on the posterior surface of the thigh, including the gluteal region, and 13 per cent. on the inner side of the thigh. Of the remaining 10 per cent., half appear in the groin and the other half over the pelvic bones posteriorly. I have observed that the sinuses which are found in the last-named regions are preceded by sinuses opening in the thigh. It may be inferred from this that collections of matter in and around the joint seek by gravitation an outlet at a lower level than that of the joint, and that sinuses appearing at a higher level indicate that the pelvic bones are invaded by the disease, an inference which is supported by the fact that a large proportion of the sinuses found at the higher level leave scars which are directly attached to the subjacent bone. I have found but little evidence that the pus in hip disease follows the lead of muscular sheaths. It appears rather to take the shortest course toward the surface, influenced to a certain degree by gravitation. Scars resulting from sinuses have been observed directly attached to the femoral shaft, the great trochanter, the horizontal ramus of the pubes, the crest or the spines of the ilium, and the posterior surface of the sacrum. Scars thus attached to underlying bone impart a curiously dimpled appearance to the part of the body in which they are found, especially in subjects inclined to be fat. Wherever they appear, the sinuses do not interfere with the proper application and comfortable wearing of the hip-splint, which makes pressure only where the perineal straps support the ischiatic and pubic bones. The pressure made by the straps forbids an eruption at these points. I have seen no case in which the pus has found an exit by the vagina or rectum. Dr. Gibney has reported an interesting case of the former kind,† and Dr. J. Randolph ‡ and Dr.

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* "British Medical Journal," August 31, 1867, pp. 177–179.

† "Diseases of Bones and Joints," C. Macnamara, London, 1881, pp. 441, 442.

* See some interesting observations on this point published in the "Transactions of the American Medical Association," 1863, pp. 159, 160.

† "The Hip and its Diseases," V. P. Gibney, New York, 1884, p. 181.

‡ "American Jour. of the Med. Sciences," February, 1831, p. 301.

Edmund Andrews cases of the latter. Dr. Andrews remarks in regard to his patient (whose hip joint he had exsected): "This is the only instance which I ever heard of where a fistula in ano opened on the outer side of the thigh." *

In regard to the treatment of the abscesses of hip disease, the histories of the cases under review indicate that the precept that pus should be released by an early and free incision is a rule which is not to be always followed in the management of the abscesses of hip disease. This opinion was ably maintained by Dr. John F. Ridlon in a discussion which took place in the New York Pathological Society in April, 1883. †

It can hardly with reason be supposed that the processes, either destructive or reparative, which take place in the bone in the progress of this disease, can be affected by incisions, local medications, dressings, the introduction of drainage-tubes, the injection of antiseptic fluids, the distension of the sac of the abscess, or the use of the faradic current ‡ as a means of hastening suppuration, when we consider that purulent collections, sinuses, and discharging fluids are but phenomena of the soft parts, secondary in every sense to the changes taking place in the bony tissue. If the collection of pus were the starting-point or the main feature of the disease, an early and free incision, as for a furuncle, would be admissible. But in hip disease the trouble is primarily and chiefly a disease of the bony tissue composing a joint, which is best treated generally by the administration of tonics and the regulation of the hygiene, and locally by fixation and protection from violence. If abscesses occur, it is shown by experience that the retention of pus, even in large quantities, or the presence of a purulent discharge, does not prevent the process of repair.

In the cases under review, 30 per cent. of the sinuses followed incisions, while the remainder were the results of spontaneous openings. The proportion of the latter would have been still larger if I had not in the earlier cases implicitly followed the old rule.

In some cases the sac of the abscess attains a great size, inviting reduction by the aspirator or bistoury. The appearance is that of a fluctuating tumor of enormous proportions, attended with scarcely any œdema, no pain, and no effect on the general health, and interfering but little, if at all, with locomotion on the hip-splint. After this condition has persisted for many weeks or months, a small area is found in which the integument, reduced to the thinness of paper, is the only barrier to the escape of the fluid. This insensible membrane is at length perforated; there is a torrent of thin purulent fluid containing caseous flakes or masses; the tumor collapses; there is no general disturbance, and cicatrization follows in a few weeks; and it is found that the diseased bone has undergone a reparative process, and the patient is cured, with more or less of the asymmetry and functional impairment which, as a rule, attend recovery from this disease. An unimportant scar, attached to the deeper tissues of the limb, is the only remaining trace of the abscess. Such a case follows the type of the cold abscess of caries, seen more often in cases of Pott's disease of the spine.

The abscess of hip disease does not by any means always present this character. Not infrequently the approach of matter toward the surface is attended by pain, heat, and redness, in addition to the swelling. There may also be present the transient general reaction commonly associated with a phlegmon.* When an abscess presents these characteristics, it is not uncommonly the first of a series, the individual members of which appear at varying intervals, and not infrequently at points remote from the seat of the initial eruption. When a case presents these features, it is likely to be long in duration, occupying many weary months before the bone is healed and the sinuses are closed. Each new eruption may or may not be preceded by pain and general disturbance.

It is in these cases that the hip-splint is especially useful. Sometimes the extreme sensitiveness of the joint, which resents the slightest jar or disturbance, is added to the pain caused by the abscess. In such a case the patient insists that the splint be tightly keyed, knowing by experience that on this depends fixation of the exquisitely tender joint. He also demands that the splint be so adjusted that his heel shall be held from touching the foot-piece of the splint, knowing that on this depends the protection of the joint from violence in standing and walking. In the treatment of the cases under review, considerations of an æsthetic nature have not prevented the use of a splint strong enough to render these important services. Many patients have been tantalized by the application of apparatus too weak to be effective.

It sometimes happens that a tumor points, and is apparently about to open spontaneously, when a sudden copious discharge sets in from a sinus already established, on another side of the limb, perhaps, and the tumor collapses, leaving, when recovery takes place, a permanent depression, or dimple, where the pointing had been. The intercurrence of any of the exanthemata is marked by great local activity, the sinuses becoming cavernous, the discharge of thick pus being very profuse, and the integument distended and red. A sinus sometimes discharges freely, and at other times scantily, and for weeks together it may be closed to open again. In some cases the patient suffers malaise and headache while the discharge is scanty or suppressed, which disappear when the flow resumes activity. When at length recovery is approaching, the sinus slowly contracts, and the surrounding tissues form a depression. The matured cicatrix occupies the bottom of the depression, and is perhaps attached to the underlying bone. When there are many sinuses, the order in which they close is not necessarily that in which they made their appearance. It is reasonable to surmise that the last to close is that one which is most directly connected with that surface or point of bone which is the last to cicatrize.

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* "Chicago Med. Examiner," June, 1861, p. 293.

† "Med. Record," May 25, 1883, p. 584. On this point Mr. Ford wrote as follows: "There is no rational system known which can point out the advantage to be derived from an artificial opening, made in any way whatsoever, during this stage of the disease; neither is there one case on record where an active employment of the art of operative surgery has been found materially useful in this period of the complaint." "Disease of the Hip Joint," by Edward Ford, second edition, London, 1810, p. 117.

‡ Dr. A. D. Rockwell has reported cases of phlegmonous and cold abscesses in which good results were obtained by this agent. "Medical Record," September 21, 1878, pp. 226, 227.

* See Ford, *op. cit.*, pp. 116, 117.

In the progress of one of these cases of prolonged suppuration the question of an incision for the release of pus will often arise. While I have seen no case in which such an incision has done harm, I have also seen no case in which it had a positive controlling influence for good generally or locally. If the physician has the opportunity, he may relieve tension and allay pain by an incision. But, as the cases under consideration have invariably been in "office" or "dispensary" patients, freed by the hip-splint from the sick-room and hospital ward, it has often happened that the patient, through dread of the knife, has remained away, the abscess pursuing its painful course until a spontaneous opening has occurred. I have seen, however, no case in which the welfare of the patient was seriously compromised by the expectant treatment thus forced on the physician. It may almost be said that in practice it is well to make light of this feature of a case of hip disease, especially as undue attention is almost certain to be accorded to it in the domestic circle. The borders of the aperture of a purulent sinus are not particularly sensitive to external impressions; but the friends of the little patient will concentrate their attention on this feature, as entailing unusual distress and danger. Unless the stream is too copious, it is best to leave the opening uncovered, relying entirely on evaporation and frequent change of under-clothing, which is to be boiled the instant of removal. Sometimes a deodorizing application is desirable. In any event, poultices and kindred applications are to be avoided after the discharge has begun.

If the physician chooses to regard himself as a military commander, intent on subduing the enemy entrenched in the bony tissue, let him beware of having his attention distracted by sorties in the soft parts. Let him control the bone disease by fixation, protection, and hygiene, and the abscesses and sinuses will not require the bistoury and drainage-tube.

The following are illustrative cases:

Case I.—A girl, aged seven. Right hip. Duration of disease one year. Nine months after treatment was begun a fluctuating tumor appeared on the anterior surface of the upper part of the thigh. Two months later the abscess, having reached a great size, opened without pain when the child was sweeping the sidewalk with a toy broom. There was a torrent of fluid. Collapse of the tumor was followed by a purulent discharge, containing caseous flakes and masses, which continued for seven months, when it ceased and left a firm cicatrix. The sinus remained closed for seven months. At the end of that time moisture was found in place of a dry scar, and for the past year the place of the sinus has been moist and frequently covered by a small scab. The child is an active and healthy school-girl, still wearing the hip-splint on account of the delay of permanent cicatrization, and to make sure of recovery with the present good position of the limb. There is ankylosis.

Case II.—A boy, aged five. Right hip. Duration of disease three years. A fluctuating tumor occupied the anterior surface of the thigh, extending from the level of the great trochanter to one inch above the patella. Four weeks after treatment was begun the abscess opened when the patient was asleep. On awaking in the morning, he thought he had wet the bed. There was speedy collapse of the tumor. The boy's general condition has remained good, excepting on two occasions, when there was an arrest of the discharge, with accumulation of pus, and some general reaction. A profuse discharge, which occurred spontaneously by the original sinus, promptly relieved the local and general symptoms. All of the usual symptoms and signs of osteitis of the hip joint have been observed in this case. Fifteen months after the abscess broke the sinus was firmly cicatrized. At the present time, three months later, the patient is an active and robust school-boy, with good prospect of making an excellent recovery with useful motion in the joint.

Case III.—A girl, aged seven. Left hip. Duration of disease two months. A fluctuating tumor was detected six months after treatment was begun. Ten months later the tumor had reached an enormous size, and pointed on the inner side of the thigh, presenting a small area of insensible integument, apparently the only barrier to the escape of the fluid. I am informed that the child opened the abscess while at play, using a pin for the purpose. There was a copious flood and a speedy collapse of the tumor, followed by a purulent discharge for five months. There were no symptoms attributable to the abscess before or after its opening. Throughout the treatment the patient wore the hip-splint day and night, as did all the patients whose cases are here reported. The child made a good recovery, with ankylosis. It is now three years and three months since the sinus closed, and two years and nine months since treatment was suspended. The scar is small, deeply depressed, and attached to the bone, and the girl is in perfect health.

Case IV.—A boy, aged four and a half. Right hip. Duration of the disease one year. Fifteen months after treatment was begun a fluctuating tumor was found over the great trochanter. It slowly increased until it extended on the outer and posterior surface from above the trochanter to the junction of the middle and lower thirds of the thigh. It then slowly decreased, and twenty-one months after it was first noticed it had disappeared. The tissues on the posterior surface of the thigh, however, remained condensed, and, three months after the disappearance of the tumor was recorded, two sinuses appeared on the outer and posterior surface of the thigh, and two months later a third appeared on the outer surface. They discharged freely, and, six months after the first appeared, they had permanently closed. In this case the repair of the diseased bone was in progress while the fluid collection attained a large size and disappeared, and while a subsequent copious purulent discharge was taking place. At the present time, sixteen months after the closing of the sinuses, and three months after treatment was suspended, the boy is free from symptoms, and the scars are depressed and attached to the deep fascia. There is free motion through 45° of flexion and 20° of abduction, with considerable motion in adduction. That the case was one of osteitis of the hip joint, however, is evident from the duration of the affection and the following well-marked features: recurring pain in the knee for a year, nocturnal crying, marked deformity and reflex arrest of motion when first examined, the thigh being flexed 67° and abducted 40°, muscular atrophy, real shortening of one inch, and pain on the slightest disturbance of the joint, relieved by the application of traction or fixation.

Case V.—A boy, aged nine. Left hip. Duration of the disease sixteen months. Two sinuses—one the result of an incision and the other a spontaneous opening—had been discharging copiously in the region of the great trochanter. Three months after treatment was begun a third appeared in the upper part of the inner surface of the thigh, and in the following sixteen months six others appeared on the anterior and posterior surfaces of the thigh, in the groin, and over the sacrum. The discharge was for a number of months very copious, but it slowly diminished, and four years and five months after the last sinus appeared they had all permanently closed. While this prolonged discharge was taking place, the boy suffered, but without contracting permanent damage, from measles, scarlet fever, and mumps. At the present time, five months after the permanent closure of the sinuses, the lad is in perfect general health, and about to make a good recovery, with ankylosis. He is very active, still wearing the hip-splint in order to retain the present good position of the limb.

Case VI.—A girl, aged seven. Left hip. Duration of disease nearly three years. An abscess had opened spontaneously on the anterior surface of the upper part of the thigh, and had been discharging for five months. Six months after treatment was begun the sinus permanently closed. At the present time, sixteen months after the sinus closed, the child is in perfect health. The scar is deeply depressed, and attached to tissues near the femoral shaft. There is wide motion, 40° antero-posteriorly and 35° laterally, measured with the assistance of a goniometer devised by Dr. Gibney. That the case was one of hip disease, however, is evident from the following features, which were well marked: muscular atrophy, real shortening, frequently recurring pain in the knee for two years, contraction of the adductors, which was observed for two years, and for which section of the muscles was repeatedly advised,* deformity—the thigh being flexed 90° and adducted 35°—and pain on the slightest disturbance of the joint relieved by traction or fixation.

Case VII.—A boy, aged five. Left hip. Duration of disease two years. A sinus following an incision in the outer surface of the upper part of the thigh had been discharging for seven months. Six months after treatment was begun the sinus permanently closed, and the boy made a good recovery, with ankylosis. One year after treatment was suspended the child was in excellent health, and the scar was deeply depressed and attached to the bone.

Case VIII.—A boy, aged four. Left hip. Duration of disease one year and six months. Four months after treatment was begun, pus was released by an incision in front of the great trochanter, and five months later another incision was made in the same region. Pus was discharged in varying quantities for six months, when the sinuses permanently closed. The patient remained under observation for twenty-two months longer, and, when last seen, was in good general condition, and in a fair way to make a good recovery, with ankylosis.

Case IX.—A girl, aged nine. Right hip. Duration of disease one year. Nine months after treatment was begun pus was released by an incision behind the great trochanter. A purulent discharge continued for two years and nine months, with brief intermissions, during which the patient suffered from lassitude and headache. One month after the sinus permanently closed, treatment was discontinued against advice. Three years and eight months later the child was found in perfect health. She had recovered, with ankylosis, and a strong and fairly useful limb.

Case X.—A boy, aged six. Right hip. Duration of the disease two years. One year and three months after treatment was begun a tumor appeared on the outer side of the thigh. An incision made six months later led to a very copious discharge for three months, followed by a scanty discharge for seven months, when the sinus closed. The boy ultimately made a fair recovery, with ankylosis. I am informed that two years and six months after the sinus closed it reopened spontaneously, and discharged for about six months. At the present time, four years and nine months after the second closing of the sinus, the cicatrix is evidently final, and the lad is in excellent health.

Case XI.—A girl, aged three. Right hip. Duration of disease one year. Five months after treatment was begun fluctuation was detected, and an incision made on the outer surface of the upper part of the thigh. The sinus thus established was followed by five others, which appeared without incision on the posterior and inner surfaces of the thigh and in the groin. There was a constant discharge for eighteen months, when the sinuses permanently cicatrized, and the child made an excellent recovery, with ankylosis. It is six years and two months since the sinuses permanently closed, and five years and six months since treatment was suspended. The scars are deeply depressed, some of them are attached to the underlying bone, and the girl is in robust health.

Case XII.—A boy, aged seven. Right hip. Duration of the disease four years. Four months after treatment was begun fluctuation was detected, and an incision was made on the inner side of the thigh. A copious purulent discharge continued for two years from this and three other sinuses on the outer surface of the thigh and in the groin. During this time the patient wore the hip-splint constantly, and was almost daily out of doors. This statement is true as applied to all the cases here reported. The sinuses finally closed, and an excellent recovery followed, with ankylosis. At the present time, eight years after the sinuses permanently closed, and six years and two months after treatment was suspended, the boy is in robust health. The scars are deeply depressed, and some of them are attached to the underlying bone.

In these histories regard has been had only to the deportment of the abscesses. Other clinical features of interest have been omitted, excepting that in each instance enough of the history has been given to establish that the case was one of chronic osteitis of the joint. It is well to state, however, that the results and prospects as regards symmetry and mobility in the cases reported, as well as in the whole number under consideration, are such as to commend the treatment pursued.

The cases above reported are cited as corroborating the views set forth in the preceding pages. They do not by any means include those of all the patients whose histories have been reviewed in the preparation of this paper. A number are still under treatment, a few have died from causes more or less directly connected with the joint disease (consumption, visceral degeneration, and tubercular meningitis), and a number, as happens in all affections of a chronic character in which perfect restoration can not be promised, have strayed away and are lost to observation. In the whole number, however, no case has shown clinical features at variance with the views which have been presented above, to the effect that abscesses are phenomena of secondary import in the progress and management of a case of hip disease, and that their treatment may in many cases be purely, or almost purely, expectant. This precept, however, is to be construed with a keen appreciation of the necessity of thoroughly treating, in accordance with the principles suggested above, the disease of which they are an incident.

Yellow Fever on the Isthmus of Panama.—It is stated that the Surgeon-General of the Marine-Hospital Service has information to the effect that yellow fever is very prevalent both at Panama and Aspinwall.

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* Quando tandem chirurgi nostri praeclari discent contractionem reflexam musculorum esse unam ex indicationibus coxalgiae?

SURGICAL OBSERVATIONS IN THE TREATMENT OF THE DISEASES AND ACCIDENTS OF THE LIVER.*

By CHARLES K. BRIDDON, M. D.,
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Until within a recent period the liver and its annexa have appealed in vain for the help accorded to its neighbors in the abdominal cavity. Such aid has been restricted to the treatment of abscess and hydatids. The frequent occurrence of suppurative hepatitis in the tropics afforded opportunities for clinical study that led to the early recognition of indications for the prompt and early evacuation of cavities resulting from that disease. Thirty years ago, Budd, in his monograph "On Diseases of the Liver," expressed himself as follows: "From what I have seen and read of hepatic abscess, it seems to me that the proportion of recoveries has been just as great, or even greater, when the abscess has opened into the lung or the bowel, as when it has made its way through the side, and I can only explain the circumstance by the fact that, when an abscess has pointed at the side it has seldom been allowed to open of itself. When the abscess is large, and has existed long, its walls are thick and unyielding, and it has, in consequence, still less disposition to close up. When an abscess of this kind opens of itself, either outwardly or into the intestine or lung, matter continues to be discharged, and the patient generally dies worn out by the protracted suppuration. When the abscess is opened by the knife, the same thing, of course, happens, and the patient dies the earlier for our meddling. In India now, it seems to be the common practice to thrust a long exploring needle into the liver, where the presence of an abscess is suspected; and now and then perhaps the disease may be cured in this way. A single abscess may be opened when it is of moderate size, and before its walls are too thick and firm to close together, and the cavity may be thus obliterated. But there are many objections to the practice that to me seem quite decisive against it. First, there is the danger of hæmorrhage, and of setting up fresh inflammation by the mechanical injury thus done to the liver. This danger may, perhaps, be small for a single puncture, but, if the abscess is deep seated, it may not be hit at the first thrust. Again, from the difficulty of distinguishing the different diseases of the liver, if the operation is commonly adopted it must often be performed where there is no abscess at all. It will readily be imagined that much mischief may be done in this way. Often, too, there is more than one abscess. This was the case in thirteen of the twenty-nine cases recorded by Annesly, and in still larger proportion in the cases collected by Andral, and Louis, and myself. We can hardly hope to reach all the abscesses, and, unless we do, we can not cure the patient. Then there is the danger, that has been before alluded to, of letting the matter escape into the peritonæum, and setting up peritonitis that may be speedily fatal. An occasional instance of success will, I fear, be a poor set-off against the cases in which the operation has done mischief, or failed of doing good."

Such was the doctrine enunciated by a writer that was recognized as an authority in 1852. We shall see how the improvements in modern treatment have swept away most of these objections, although at the same time we are bound to give due consideration to opinions based upon the study of a large number of cases. That the sudden evacuation of such abscesses is apt to be followed by considerable hæmorrhage from the granulations that line their interior we are well aware, but that it is apt to be of a serious character is extremely doubtful. At all events, it is probable that the benefit derived from such evacuation will outweigh the loss of blood. The character of the tissues in which such cavities are formed is opposed to their contraction, and the surrounding structures are very likely to resent interference by extension of inflammatory processes that may perpetuate the conditions already existing, or lead to the formation of suppurative foci in the neighborhood, or even to necrotic processes of a serious character. Most of these conditions which are referred to as complicating incision or puncture will occur when a spontaneous opening forms. It is true that such an opening is usually minute, and permits a very gradual discharge of the contents, but without antiseptic appliances it would be impossible to keep such a cavity aseptic, and such a condition would cause bad local reactions, to say nothing of the danger of general infection. Then, again, to open through the abdominal or lower thoracic wall occupies a considerable period of time, during which the abscess itself is enlarging, and the patient himself becoming more exhausted. I think that, where we find a large number of small collections of pus scattered through the liver, with one large central abscess, the histories of such cases and the post-mortem investigations go far to prove that the small collections are secondary to the large one, which would be an indication for early operation, and I certainly can not see that the existence of other collections should contra-indicate an operation on an abscess that is fluctuant and approaching the surface. Of course, I am not referring to the multiple abscesses that are found in pyæmia.

A man entered the Presbyterian Hospital on the 20th of August, 1883, with a large, hard tumor, situated in the epigastric and right hypochondriac region. It was prominent in front, and over the center was a spot, two inches and a half in diameter, that was exceedingly tender, and the seat of obscure fluctuation. His general condition was bad. On the 22d the aspirator was used, and three ounces of pus were withdrawn. On the 25th the operation was repeated, and the same amount of pus was obtained. On the 27th he was very restless, sweat profusely, and complained of severe epigastric pain. September 2d he vomited a good deal of glairy mucus. On the 5th he had diarrhœa, and the excreta were mixed with blood and pus. The diarrhœa continued, and he died on the 12th, of gradual exhaustion. At the autopsy the principal lesions were found in the liver, although there were also found evidences of chronic diffuse nephritis. The liver was found to be the seat of multiple abscesses. The lower border of the right lobe was found adherent to the abdominal parietes. At this point was a large abscess which communicated with the commencement of the duodenum by a ragged opening, which was cut off from the abdominal sac by adhesions of the parietal and visceral peritonæum. It is probable that these smaller abscesses were secondary to the large one, and that an early operation might have prolonged the man's life.

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* Read before the New York Surgical Society, January 13, 1885.

The dread of opening the abdominal cavity in an attempt to reach an abscess of the liver for a long time deterred medical men from operating; much time was lost in studying the physical signs that indicated the formation of adhesions. Then Graves made an advance in the right direction, practicing an incision over the most prominent part of the tumor down to the peritonæum, filling it with lint, and thus diminishing resistance and inviting a spontaneous discharge. At a later period Récamier advised opening the abscess, from without inward, by the successive applications of potassa fusa, a very slow and painful process. In 1842 Murray called attention to the advantages derived from the method by puncture, insisting upon the introduction of an ordinary-sized trocar and cannula, leaving the latter in position until adhesions formed between the liver and abdominal wall; and that this does occur in the large majority of cases there can be no doubt. In fact, Jameson ("Lancet," April 29, 1871) demonstrated such to be the fact in a case in which the patient died on the fourth day after the operation, and in which the parts were found adherent around the artificial opening for a breadth of one centimetre and a half.

With improved methods of treating such conditions, we are warranted in anticipating more favorable issues in the future. In 1883 Lawson Tait reported four cases of hepatotomy, in which the existence or non-existence of adhesions was not considered. Three of these were for cases of hydatid disease, and one was for a large abscess. In all of them incisions were made through the abdominal wall, exposing the cyst, which was then opened and attached to the margins of the external opening by suture. All of the patients recovered completely. The great advance made by the author of these operations was in attacking the disease by a systematic procedure, without regard to adhesions.

Conditions of the annexa of the liver calling for surgical interference are very various, but most commonly due to stenosis and occlusion of the biliary excretory ducts. Simple dilatation of the gall-bladder is associated with obliteration of the folds that are characteristic of its lining membrane and thinning of its walls. It may attain an enormous size, but generally maintains its natural form. It is not generally adherent to surrounding parts, and contains only more or less bile-stained mucus.

Empyema of the gall-bladder is not attended with change in form, but only in size. It may be free, or united to surrounding parts by firm fibrous adhesions; the walls have become friable and are easily lacerated. Recoveries from simple dilatation are common enough. The obstruction may cease to exist, especially if due to calculus in the common or cystic duct, and on the removal of this the inflammatory processes in the gall-bladder speedily disappear. In other cases the disease progresses steadily, exposing the patient to the dangers of ulcerative perforation or rupture. Especially is this apt to happen in empyema due to gallstones. In some cases it has been noticed that very marked changes occur in the size of the distended gall-bladder, due to calculi acting as ball valves.

A patient with a well-marked and interesting case of this kind entered the Presbyterian Hospital June 28, 1880. She was a widow, forty-five years old, who first began to suffer from pain in her right hypochondrium four years before admission. Eighteen months before she began to have unusually severe paroxysms of pain that were preceded by chills and fever, and these attacks were repeated with intervals of eight or nine days. On admission, she was found to be deeply jaundiced, had white stools, and high-colored urine; complained of pain, pruritus, and occasional vomiting. There was marked tenderness over the epigastrium, the liver was enlarged, measuring six inches in vertical line; its free border could be felt free from any irregularities. The day after admission she had one of her attacks, beginning with a chill, followed by exaltation of temperature. She suffered from intense pain, and the gall-bladder could be felt distinctly below the free border of the ribs. After this the paroxysms occurred about once a week. It was observed that the gall-bladder became more and more dilated before and during the attacks, with increase of the jaundice to a bronze color, and that, on the subsidence of the pain, the size of the gall-bladder diminished, and the jaundice became lighter in color. It was thought that the obstruction was due to a calculus in the common duct; that, when this became dilated, it permitted the calculus to recede and the contents to escape; that, when the dilated duct emptied itself, it grasped the stone and closed the duct. After lingering until September 30th, she died from profuse diarrhœa and exhaustion.

The autopsy was made thirteen hours after death. The portal system was found distended with blood. There was no fluid in the cavity of the peritonæum. The stomach and duodenum were opened *in situ*. On the inner surface of the latter was a conical prominent projection, on the apex of which was the opening of the common duct. Pressure on the gall-bladder caused an escape of bile from this orifice. A probe passed through it entered a large ampulla, which, on further examination, was found to be the dilated duct continuous with a cavity in the substance of the liver itself, and probably caused by ulceration of the walls of the duct by the pressure of a calculus which had recently escaped into the intestine. The two ducts which unite to form the main hepatic duct were each distended by a calculus as large as a good-sized marble. There were several small abscesses in either lobe, and the left lobe was larger than the right. In this case all those conditions which it would have been possible to recognize during life would have warranted an operation, and yet the pathological lesions found after death would seem to prove that such a procedure would have done no good. The abscesses were, no doubt, secondary to the ulceration in the walls of the common duct.

The operation of cholecystotomy was first proposed by Jean Louis Petit ("Memoires de l'académie de chirurgie," tome 1, page 155); afterward, and independently, by Dr. Handfield Jones. It was first performed by Dr. Bobbs, June 15, 1867, then by Dr. Marion Sims, Ransohoff, and a number of European surgeons, and it may now be fairly said to be one of the recognized operations in surgery. But, from the nature of conditions that not infrequently complicate it, it must often fail. It will frequently happen that the calculi are inaccessible, hidden in recesses and diverticula that can not be reached, and that such circumstances will render it impossible to complete an operation justified by all the symptoms that could be made out during life. The steps of the operation will be similar to those used in gastrostomy. The careful introduction of each interrupted suture through skin, parietal and visceral peritonæum, and incision immediately following fixation, has been followed by the best results. Circumstances might present themselves that would render it advisable to open the gall-bladder before attaching it to the abdominal wall. In attaching the walls of a cavity distended to its utmost, a faulty needle, with cutting edges, might easily penetrate through all the tunics that enter into the composition of its walls, and permit a leakage sufficient to excite peritonitis of a fatal character. If such conditions should appear to warrant incision previous to suture, it would be proper to use Keen's scoop, or to empty and disinfect the cavity through the medium of an aspirator.

Ruptures of the liver, generally fatal, are more immediately concerned in the subject of this paper. Most frequently the result of severe accidents, they are attended with marked symptoms of collapse, sometimes with local conditions that may indicate the existence of abdominal hæmorrhage. More frequently the patient dies speedily, and in the majority of the cases that I have seen the lesions have been only suspected during life; but I think that in the future the diagnosis will be made during life by explorative operations.

Five years ago I saw a youth who had been thrown from a wagon a month before my visit. He came in violent collision with a lamp-post, but soon recovered from shock. His physician informed me that for several days there were no symptoms of serious mischief, but that, after the first week, there slowly developed tenderness and swelling in the right hypochondriac region. I found him with a much distended abdomen, dull on the right side and resonant on the left. The dullness on the right was continuous with the usual area of liver dullness, and reached downward nearly to the iliac fossa. The swelling was fluctuant, and had been emptied more or less completely on several occasions by the physician in attendance, and on the day of my visit a large amount of apparently pure bile was removed by the aspirator. There were no symptoms of obstruction present, and it was the opinion of the physician that rupture had occurred, and that the bond of union had yielded slowly to the pressure of the ducts, forming an adventitious cyst. Subsequently, a large opening formed, which drained off large quantities of bile, and he succumbed at last to the drain upon his system. Unfortunately, the case is not complete. I saw him only once, and efforts to obtain an autopsy were of no avail.

The following case of injury occurred in my service, and is of considerable interest in several respects:

[Reported by Dr. Charles G. Wagner, House Surgeon.]

Charles McHugh, twenty-nine years old, native of Ireland, was admitted to the Presbyterian Hospital, in the city of New York, July 3, 1883, service of Dr. Charles K. Briddon, with the following history:

While under the influence of liquor, and attempting to work at his trade as a bricklayer, he lost his footing and fell from the third story to the cellar bottom, landing on a pile of bricks. When he was admitted to the hospital, he was in a condition of profound collapse, which lasted for some considerable time. As soon as he was able to respond to interrogations, it was ascertained that he was suffering from severe abdominal pain, concentrated principally in the right hypochondriac and lumbar regions, and in the right scapulo-humeral articulation. His condition was such at this time as to preclude any very exact physical exploration, but no crepitus could be made out in the neighborhood of the shoulder. His temperature was about normal, his pulse frequent and thready.

On the following day the signs of shock were still present. It was noticed that all the urine that he passed was bloody, the abdominal muscles were tense, and there was a manifest swelling between the cartilages of the ribs and the right iliac fossa, which region was exquisitely tender to the touch. Temperature 103°, pulse 120.

A week elapsed before the symptoms of shock had entirely passed, and during this time there was a gradual abatement of the local signs, the pain diminished, the abdomen became less tense, and there was an obscure fluctuation in the hypochondriac and anterior lumbar region. Urine still continued bloody.

July 25th.—Three weeks after the injury was received the blood had entirely disappeared from the urine. Patient complained of much difficulty in breathing and pain in the side; there was some diffused abdominal tenderness, but it was still principally concentrated in the right side. There was absolute dullness from the nipple line to a level with the anterior superior spinous process of the ilium, and below the free border of the ribs fluctuation was manifest. Believing that the collection of fluid originated in the kidney, and that it was confined by a capsule formed out of connective tissue, it was determined to explore it with a needle. The puncture was made a little below the free border of the eighth rib, and, on connecting with Dieulafoy's apparatus, sixty-nine ounces of fluid were removed. It had all the characteristics of pure bile. The chemical analysis and the microscopic appearances confirmed that opinion.

Patient was very much relieved by the operation. The difficulty of breathing and pain almost entirely disappeared, and his temperature dropped to nearly the normal. This condition was maintained until the evening of the following day, when the patient had a chill, which was followed by elevation of the temperature to 103°, pulse 136, respiration 36. In this short time the sac had refilled, the physical signs were as before, and he complained much of the pain and difficulty of breathing; his face was somewhat flushed, and there was a perceptibly yellowish tinge of the sclerotics. On the 27th, his symptoms were of such an urgent character as seemed to demand either aspiration or free incision, and the latter was determined upon. His condition did not appear to warrant the use of an anæsthetic. An incision one inch and a half long was made below the free borders of the eighth and ninth ribs, not being certain whether the fluid was contained within the dilated gall-bladder or an adventitious cyst. The dissection was carried carefully through the abdominal muscles until the cavity was reached. The peritonæum was not opened. A large gush of bile escaped, and seventy-five ounces were collected. As soon as the opening was made, the index-finger was introduced, and, wherever it could reach so as to come in contact with the walls, the cavity appeared to be lined with a perfectly smooth surface. No blood and no coagula escaped. Of course, the finger was too short to map out the confines of the space. After it was emptied, another attempt was made to explore with the finger, but it was found that the internal aperture was blocked by a solid mass that moved upward and downward with the movements of respiration. On passing the finger downward, it could be passed under this mass, which was made out to be the liver, which probably had been pushed up by the accumulation, and which had gravitated downward on its removal. A large drainage-tube was fixed in position, and a dressing of carbolized gauze.

The operation gave prompt relief, and it was, of course, more permanent in character than the aspiration. A free discharge of bile occurred, necessitating frequent changes in the dressing. With occasional fluctuations as regards quantity, the discharge continued for several weeks. For the first few weeks it was apparently mere bile unmixed with other secretions. During this time the bowels were constipated, and the dejections were clay-colored, and on one or two occasions there was a slightly perceptible yellowish hue of the skin, but at no time amounting to jaundice, and there was not any marked emaciation.

On the 22d of August (during the absence of Dr. Briddon from the city) the patient accidentally removed the drainage-tube. A new one was introduced, and simple dressings to the opening, which only gave exit to a moderate amount of pus. On removing the dressing on the following day, the tube was missing, and could not be found. It was of the ordinary soft rubber, a quarter of an inch in diameter, and eight inches long. It was supposed to have disappeared into the cavity of the wound, and it is possible that it might have been drawn into it by the suction movement of inspiration. At all events, it could not be found. After ineffectual efforts to recover it, the patient's temperature rose to 105°, where it remained for a few days and fell again to the normal.

On the return of Dr. Briddon, August 2d, a tupelo tent was introduced for the purpose of dilating the sinus so as to permit of a more thorough exploration of the part. The patient took this out without permission, stating that he could not tolerate the pain caused by its presence. He had another rise of temperature. In fact, it appeared that any interference with the interior of the cavity was resented by a febrile movement. The treatment at this time consisted in daily irrigations, variously medicated—at one time with boric acid, and subsequently with tincture of iodine.

About the middle of November, four months after the injury was received, patient began to have severe attacks of coughing, and there were some physical signs of a suspicious character to the right of the right border of the middle of the sternum. These signs were thought to indicate the existence of a cavity. The attacks of coughing were always brought on during the process of irrigation, and on several occasions when iodine was used the patient said that he could taste it in his mouth. It appeared probable that adhesions had formed between the lung and diaphragm on the one side, and that perforation of the latter had permitted the contents of the sinus to reach the lung itself. It was considered extremely doubtful whether any drainage-tube had receded into the wound. It was, however, deemed proper to endeavor to make a freer exit for the discharge of anything that might be found above the diaphragm. There was no collection of fluid in the cavity of the pleura at any time.

November 27th the patient was etherized, and the superficial portion of the sinus was gradually dilated, first with sounds, and then with the finger. It appeared to pass directly upward. Almost in contact with the inner surface of the ribs, at a distance of about three inches from the surface, the finger engaged in a narrow, constricted portion, and, on forcibly dilating this, passed into a larger cavity, apparently above the diaphragm. It was noticed at this time that there was some bloody froth in the mouth of the patient, and it was regarded as evidence that the opinion as to a probable communication between the original cavity and the tubular structure of the lung was correct. A very faithful search was made for the missing drainage-tube, with every conceivable form of forceps, and with wire snares passed through cut-off catheters, but without result, and it was considered scarcely possible that it could have escaped being found. Two large drainage-tubes were introduced side by side, and the wound was dressed as before. This operation was followed by less reaction than was expected, and after a few days there was a manifest improvement in his condition. His cough entirely ceased, the discharge diminished in quantity; he gained flesh, and in about six weeks, though the discharge still continued, he asked for and obtained his discharge.

He was again seen about the middle of May, 1884. He was in very good general health, and had been working at his trade without inconvenience, still wearing the tube, through which there was a little discharge.

THE USE OF THE ASPIRATOR IN HYDROTHORAX.*

By E. D. FERGUSON, M. D.,

TROY, N. Y.

A FEW years ago I saw in consultation a young man who had been ill for two weeks. His health had previously been good. The history and physical examination showed the illness to be an idiopathic pleuritis with effusion, the right pleural cavity being filled to about the upper border of the second rib in front.

The breathing being somewhat embarrassed, it was thought best to remove some of the liquid, and, accordingly, four pints of clear, light amber serum were removed by the aspirator.

Two days after the aspiration he had a chill, with considerable increase of fever (which had been very moderate to that period of his illness), and on the fifth day following the operation I again saw him.

The fluid had increased considerably in quantity, and the hypodermic syringe showed a notable turbidity.

The aspirator was again used, and forty ounces of moderately turbid and reddish serum were removed; and, again, on the sixth day thereafter, thirty-two ounces of still more turbid fluid.

At each operation it was sought to remove all the fluid that could be taken without giving the patient distress in connection with respiration, and the procedure was suspended short of producing marked thoracic discomfort.

It is needless to follow the history of the patient through the sundry aspirations for the pyothorax which had then developed, or the drainage of the pleural cavity, which gave an apparent recovery (with marked contraction) in about one year, only to be followed by a nephritis and a moderate return of the pyothorax, and eventually death.

This was the third case occurring under my observation in which the management, course, and result had been so nearly alike that it induced me to reflect whether the aspiration had not been an important factor in the production of the pyothorax, and I at once modified my treatment of hydrothorax due to idiopathic pleuritis in so far as to abstain from the use of the aspirator unless the dyspnœa, continuous or paroxysmal, due to the effusion was marked, or the process of absorption was unusually delayed, in either of which instances I have not hesitated to aspirate, though I have desisted from the further removal of liquid when operating for dyspnœa as soon as that symptom had been measurably relieved.

I have not, since the case which forms the text for this paper, removed over a pint of liquid at one aspiration, either to relieve the dyspnœa or to incite the process of absorption; and, though facts of this kind do not go far toward establishing a principle, still I have not had a case of pyothorax the result of simple pleuritis since I have thus modified my operative management of these cases. That fact has had a certain amount of value to me as evidence, for, though I have no data from which to give actual numbers, I annually see in private or consulting practice a considerable number of cases of idiopathic pleuritis with effusion. I do not wish to be understood as denying the occurrence of cases of pleuritis in which there is a direct tendency to suppurate, nor will I pause here to discuss the nature of such cases. Since using the aspirator in this modified and limited manner, I do not have a larger percentage of cases resulting in notable thoracic contraction than under its more frequent and freer use.

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* Read before the New York State Medical Association, November 18, 1884.

Operation for the removal of intra-pleural effusion previous to the introduction of aspiration was regarded as a measure of considerable gravity, and, though the procedure was advised as justifiable and necessary in certain cases, the liability to the development of pyothorax was given a prominent place. Since the publication of Dr. Bowditch's pamphlet the performance of thoracentesis has been advised and practiced as a common and harmless measure for the removal of intra-pleural serum, the security against the entrance of air being the principal assigned reason for the safety of the procedure, while other sources of danger are quite generally ignored.

Though a few authors, as Dr. Anstie in Reynolds's "System of Medicine," and Fraentzel in Ziemssen's "Cyclopædia of the Practice of Medicine," have advised the exercise of some caution in resorting to the operation, and care and moderation in the procedure itself, for fear of ultimate injurious effects, particularly the production of pyothorax, by the great majority of recent writers to whose works I have access no mention is made of this danger.

Though by a few some general cautions are given, the general tone pervading the literature relating to the subject has seemed to encourage the idea of the innocuousness of the operation, and in many instances I have noted that no reference was made to injurious results. Beginning with the two hundred and fifty or more cases of Bowditch, and adding other reports, the operation is shown to be statistically safe; though, in quoting from those lists, the care that had been exercised in selecting cases needing the operation and the indications and rules relating to the amount of liquid to be withdrawn are omitted.

The only caution generally enforced has been to suspend the operation "when the patient complains of a constricting pain at the epigastrium," or dyspnœa is produced. It seems evident to me that, when these symptoms result from the operation, the safety of the patient has been jeopardized, for their presence indicates a profound disturbance of the position and relation of the thoracic organs, and, consequently, some plan should be adopted by which the operation shall cease prior to their production.

The rationale of the matter has seemed to me as follows:

A consideration of the pathology of pleuritis should give due prominence to the condition of the vascular supply of the immediate surface of the pleura. Whatever our views may be concerning the migration of the white corpuscles from the blood-vessels, the active division of pre-existing cells in and at the surface of the tissues, the introduction of disease germs from without, and other points of minute pathology connected with suppuration, it is an accepted fact that, soon after the development of pleuritis and the occurrence of some liquid effusion, there exists on the surface of the pleura more or less fibrinous material, the future history of which is variously determined by the progress of the disease, in that it may be absorbed, at least in a great measure; it may increase to a considerable thickness and result in *plaques* of scar-like tissue; or it may enter, more or less directly and permanently, into bonds of union between the opposing surfaces; or it probably may be a contributory element in determining the development of pyothorax.

Immediately beneath the adherent layers of this fibrinous material the nutrition of the pleura is modified, the vascular supply is increased, and apparently an effort is made to lay claim to this new material by the extension into it of new vessels.

At any rate, whether the vessels at an early date are new or not, the blood circulating near the surface of the pleura, and in particular under the layers of fibrin, is contained within vessels having fragile walls, and therefore in a condition favoring rupture if the intra-vascular pressure is increased.

In considering the mechanical effect of aspiration, this condition of the vessels should be kept prominently in mind, as well as the probable existence of layers and bands of fibrin which may, even at a comparatively early period, prevent the free expansion of the lung on the removal of the liquid.

Having before us a case requiring aspiration, there will be sufficient effusion in the pleural cavity to cause the pressure to be from within outward—i. e., against the free surface of the pleura—and thereby a support is given to the fragile-walled blood-vessels; but, when the process of aspiration is begun, this pressure is diminished till—from inability of the lung to move or expand regularly and freely, owing to the plastic material covering its surface, or by adhesions limiting its motion in certain directions, if the aspiration is sufficiently continued—finally the pressure becomes from without inward—i. e., toward the pleural cavity.

So long as this force is expended upon the thoracic parietes, upon the expanding lung through the medium of the bronchi, and upon the remaining organs of the chest, and does not exceed the pressure proper for the vessels in the diseased pleura, probably no harm would result; but, when the aspiration is carried to a considerable extent, with inability of the lung to readily follow the outgoing liquid, on simple physical principles a certain amount of the aspirating force will be expended in filling the blood-vessels in the pleura, and from their repletion we have a condition which must influence the future progress of the case. If the congestion thus produced is considerable, it must result in more or less transudation into the pleural cavity, while it also may readily be carried to a point resulting in hæmorrhage, as it did in the case I have related, as shown by the color of the liquid removed at the second aspiration.

A hæmorrhage thus induced, even if quite slight, would doubtless modify unfavorably the soluble fibrin contained in the pleural effusion, for pathologists tell us that the addition of blood to such exudates as we are considering increases the formation of fibrinous masses; but, whether such speculations are of value or not, if we carry our operation too far we shall develop or intensify one of the physical conditions connected with inflammation—i. e., increased vascular supply—and it is not irrational to suppose that we have thereby increased the probability of suppuration.

To a certain extent an analogy is furnished in the rapid emptying of the urinary bladder when it has been for some days distended by retained urine, in which case it is a matter of common observation to find the second drawing of urine more or less bloody, and even to have the bladder fill with blood, which may coagulate, and this when no suspicion of direct instrumental violence can obtain, and without the additional influence due to aspiration, as in the case of hydrothorax. Dr. Gouley has strongly insisted on certain precautions to be taken in emptying a fully distended bladder, and it appears to us that the same reasons apply with greater force in removing liquid from the chest.

This risk of increasing the inflammatory exudates, I believe, can be obviated by removing only a moderate amount of the liquid—the amount taken to be left, of course, to the judgment of the operator, and to vary with the object and effect of the operation. When the operation is for the relief of dyspnœa, it should cease promptly on the attainment of that object, and it will probably rarely be necessary to exceed a pint; while, if the object is to accelerate delayed absorption, even a less amount may suffice, and, from clinical experience, I am satisfied that eight ounces will often be sufficient for one aspiration. Should the removal of so small a quantity not suffice to secure absorption, I would consider the repetition of the operation, even several times, a lesser danger than would be incurred by the removal of a large quantity, while at the same time it would give the lung a chance, through the respiratory movements, to modify the bands or incasements which interfere with its uniform and free expansion.

The objections to the aspirator in hydrothorax due to pleuritis do not obtain when the effusion is due to cardiac or renal disease, in which case I can see no valid objection to the complete removal of the liquid, granted that the operation is demanded and that it is carefully performed, for here the lung is in a condition to follow the escaping liquid, and no leaven of suppurative change is at hand, unless it is introduced through the carelessness of the operator.

I am aware that formidable arrays of cases may and have been arranged illustrating the innocuousness of aspiration in hydrothorax, but it seems to me the argument is not sound. As well might Keith have pointed to his long and unbroken list of successful cases of ovariotomy, and claimed its freedom from risk. Then came the few fatal cases so near together that he reviewed his means and methods, and considered seriously whether the measures to which he had ascribed his former success did not contain the principal cause of the recent deaths.

Medicine furnishes many illustrations of the great value of the numerical consideration of disease and therapeutic measures, but all conclusions based upon numerical data should be subjected to a careful criticism as to whether the classification had been complete in all its details.

I recognize in the aspirator an instrument of great value, capable of being used with great benefit; but I also see it as an engine of harm, misery, and death, when used injudiciously. It should never be used for the purpose of emptying and leaving empty a non-collapsing cavity.

Its operation is so silent—unseen so far as the actual effect is concerned—and at the same time it does its work so prettily and strikingly that the temptation is to go on with the operation as long as the material holds out. With the inconsiderate use of the aspirator, I believe it has destroyed more lives than it has saved; for every case of successful aspiration is by no means a life saved.

In another field, where it has been quite commonly used —i. e., in pelvic troubles—I regard it as an instrument of special risk, to be used only after a careful consideration of the danger and the possible benefit to be derived.

Book Notices.

Lectures on the Principles of Surgery, delivered in Bellevue Hospital Medical College. By W. H. Van Buren, M. D., LL. D. (Yalen.), formerly Professor of the Principles and Practice of Surgery in the Bellevue Hospital Medical College, etc. Edited by Lewis A. Stimson, M. D., Professor of Physiology and Clinical Surgery in the Medical Department of the University of the City of New York. New York: D. Appleton & Co., 1884. Pp. vii–488. [Price: cloth, $4; sheep, $5.]

We question if Dr. Stimson could have done a greater service to the profession than by giving permanence to the late Dr. Van Buren's work. Past generations of students will linger sadly over the words that they have so often heard from lips that are now dumb forever, while those who never listened to the living lecturer will gain some idea of the clear and forcible character of his instruction, although they can not recall the eloquence with which it was delivered. The chief interest of such a work as this lies in its originality, in the fact that it mirrors the personal peculiarities of the author. He was a man who thought out things for himself, as his writings testify.

The series begins with a preliminary lecture upon the study of surgery in general and its relations to medicine. This entire chapter fairly sparkles with apothegms, any one of which might be quoted as worthy of immortality. Chapter II discusses the classification of wounds; hæmorrhage forms the subject of the two succeeding chapters; the healing of wounds follows; then come pus, abscesses, punctured and contused wounds, tetanus, and shock. The subjects of pyæmia and septicæmia, so difficult for the student to grasp, are discussed in that peculiarly clear and happy style which was Dr. Van Buren's gift from Nature. Erysipelas and hydrophobia are not less graphically described. Inflammation and gangrene have wisely been reserved until late in the course, instead of being introduced at the beginning, as is the usual custom with instructors. Fractures and dislocations receive the attention which their importance calls for. Two chapters are devoted to tumors, which are discussed entirely from a clinical standpoint. In this division of his subject, as well as in each of the others, the author did not pretend to enter exhaustively into pathology, but it is evident that he was carefully informed upon all of the latest ideas.

It is interesting, in looking over the book, to note how many sentences are in italics. These embodied truths which the lecturer desired to bring home most earnestly to the minds of his auditors. We can almost imagine how he uttered them. But Dr. Van Buren's book is something more than a "tribute to his memory," much as that reverent expression by the editor signifies—it is a model for teachers of surgery, present and to come.

BOOKS AND PAMPHLETS RECEIVED.

The International Encyclopædia of Surgery. A Systematic Treatise on the Theory and Practice of Surgery by Authors of Various Nations. Edited by John Ashhurst, Jr., M. D., Professor of Clinical Surgery in the University of Pennsylvania. Illustrated with Chromo-lithographs and Woodcuts. In six volumes. Vol. V. New York: William Wood & Co., 1884. Pp. xxxvi–1,207.

Obstruction of the Gall-Duct, and its Bad Consequences, with Remedial Operation suggested. By J. McF. Gaston, M. D., Atlanta, Ga. [Reprint from "Gaillard's Medical Journal."]

Announcement of the Twenty-second Annual Course of Lectures of the Medical Department, University of California, 1885.

The Revival of Ovariotomy and its Influence on Modern Surgery. An Address delivered at Birmingham, November 5, 1884. By Sir Spencer Wells, Bart., etc. London: J. & A. Churchill, 1884. Pp. 31.

Acute Inflammation of the Middle Ear in Infancy. By Alvin A. Hubbell, M. D., etc., Buffalo. [Reprint from the "Archives of Pædiatrics."]

London Water Supply. Report, etc., No. XLVI.

Conspectus of the Medical Colleges of America. Compiled by the Illinois State Board of Health. Revised to December 20, 1884.

School Hygiene in relation to its Influence upon the Vision of Children, or School Sanitation. An Address delivered before the Medical Association of Georgia, 1884. By A. W. Calhoun, M. D., President. [Reprint from the "Transactions of the Medical Association of Georgia."]

Memoria sulla Cura dell' Ectropio Infiammatorio (Escissione della Congiuntiva e Cauterizzazione). Pel Dottore Raffaele Castorani, ec., di Napoli. [Reprint from the "Resoconto della R. Acc. Medico-Chirurgica di Napoli."]

Memoria sull' Estrazione Lineare Inferiore della Cateratta con la Capsula. Pel Dottore Raffaele Castorani, ec., di Napoli. [Reprint from the "Resoconto della R. Acc. Medico-Chirurgica di Napoli."]

A Useful Catheter for the Operation for Vesico-vaginal Fistula. [Reprint from the "Detroit Lancet."] The Management of Pott's Disease of the Spine in Young Children. [Reprint from the "Medical Age."] By Hal. C. Wyman, M. D., etc., Detroit.

Catarrhal Mucous Membrane. By P. W. Logan, M. D., Knoxville, Tenn. [Reprint from the "Southern Practitioner."]

Quarterly Report of Medical Officers, United States Army, with their Stations and Duties, as reported to the Surgeon-General January 1, 1885. Washington: Surgeon-General's Office.

Proceedings of the Royal Society, Nos. 227 to 231.

The Scientific Proceedings of the Royal Dublin Society, Vol. iii, parts 6 and 7; Vol. iv, parts 1 to 4, inclusive.

On the Rupture of Veins, with the Report of a Case in which the Rupture of a Deep Femoral Vein was successfully treated by Ligation of the Ruptured Vessel. By Henry B. Sands, M. D., etc. [Reprint from the "Archives of Medicine."]

London Water Supply. Report, etc., No. xlvii.

Sixth Annual Report of the State Board of Health of Illinois.

Report for the Year 1883–'84, presented by the Board of Managers of the Observatory to the President and Fellows of Yale College.

One Hundred Years of Publishing. 1785–1885. Philadelphia: Lea Brothers & Co., 1885. Pp. 20.

Correspondence.

LETTER FROM WASHINGTON.

An Anatomy Bill.—The New South American Remedy for Cancer.—The National Board of Health.—The Marine-Hospital Service—St. Ann's Infant Asylum.

WASHINGTON, *January 26, 1885.*

THE bill "for the promotion of anatomical science and to prevent the desecration of graves" has been passed by the House of Representatives, and in the Senate has been referred to the District Committee. There is no opposition to its passage. The bill provides that the bodies of persons dying in the almshouses, jails, and hospitals, unclaimed by relatives, shall be delivered to the medical colleges for dissection. It is made a penitentiary offense to disturb a grave, and the demonstrators of the colleges must file a bond with the proper officer, stipulating that the remains of bodies taken by them from custodians of the almshouses, etc., shall be buried after dissection.

A new and, perhaps, not an indifferent successor to cundurango has sprung up in *alveloz*, a new South American plant recommended as a cancer cure. Our consul at Pernambuco forwarded to the State Department a sample of the drug, with the statement that several cases of alleged cancer had been cured by its application. Unlike cundurango, which was an alleged internal remedy for cancer and syphilis, alveloz is an external application. Its mode of operation is similar to that of jequirity. A profuse suppuration follows its application to a granular surface. On receipt of the medicine, it was turned over to the Marine-Hospital Bureau for trial. A portion of the drug was given to Dr. Smith Townsend by the Surgeon-General, for use in a case of lupus of the nose, near the angle of the eye. The case was of nearly forty years' standing, and had resisted all previous treatment. The ulcer was cured within a few days, and the patient was exhibited by Dr. Hamilton at a recent meeting of the medical society. Dr. Hamilton stated that he had under observation an undoubted case of epithelioma of the face, and that, at a future meeting of the society, he would report the result. He was not sanguine as to the virtues of the drug, but it had certainly done well in the case of the lupoid ulcer.

Dr. Stanford E. Chaillé has been nominated by the President to fill the vacancy in the National Board of Health caused by the death of Dr. Bemiss. The board have had no full meeting for more than a year, and the expenses of room-rent and messenger's services have been met from private sources since last June, Congress having made no appropriation for the board's support since that time.

The report of the Marine-Hospital Service, giving an account of the cholera abroad, as well as of the quarantine operations at home during the past year, has just been made public. The report also contains the usual statistics and reports of hospital cases.

Passed Assistant Surgeon George W. Stoner, of that service, now on duty at Norfolk, has been promoted to be surgeon, and has been ordered to duty in this city as chief purveyor, succeeding Dr. Bailhache, relieved some time since.

At a meeting of the medical board of St. Ann's Infant Asylum, Dr. D. R. Hagner was elected president, and Dr. S. C. Bussey vice-president. Dr. S. A. H. McKim was elected a member of the board, and Dr. W. Nicholson was appointed ophthalmologist to the institution.

LETTER FROM ST. LOUIS.

The Cholera.—The State Board of Health.—The St. Louis Medical Society.—The Post-Graduate School of Medicine.—The College of Pharmacy.

St. Louis, *January 22, 1885.*

Two cases of cholera nostras have appeared in our city within the last few days, and this fact has given rise to a sensational report in certain quarters that Asiatic cholera has appeared here. The facts are these: On Saturday one of our most prominent physicians, Dr. H. H. Mudd, called at the Health Office, stated that he had under treatment a very suspicious case, and invited Dr. W. B. Dorsett, the dispensary physician, to see the case. The patient, a colored man, was a stoker in a large iron manufactory. On Tuesday he had complained of being oppressed by the coal-gas from the furnace. He felt badly on Wednesday and Thursday, and on going home Thursday evening was obliged to go to bed at once. Dr. Mudd first saw him on Friday morning, when he presented characteristic symptoms of cholera: vomiting, purging, rice-water dejections, cramps, cold extremities, etc. Treatment simply afforded some relief from pain, and the man died on Saturday evening, about forty hours after he was obliged to take to his bed. There was entire suppression of urine from Friday morning until his death.

On the following day a peddler, who had been in the city ten days, having come from New Orleans, and from New York to that city, was sitting in the bar-room of his boarding-house playing cards at nine o'clock in the morning. He was seized with diarrhœa, and soon went to bed complaining of feeling very ill. There were both purging and vomiting. About two o'clock he asked to be sent to the hospital, for he thought he would not live long. An ambulance was summoned and he was taken to the dispensary, where he was found to be almost in a state of collapse. He was immediately sent to the hospital, and at five o'clock was dead.

Last summer there were three cases of "cholera" reported, one by an eminent professor who has seen two grave epidemics of cholera here, and certainly knows the disease when he sees it. At the time when these cases occurred there was an unusual prevalence of diarrhœal diseases in the city, and there seems to be a general impression among the laity that diarrhœal diseases were more than usually prevalent here during the summer.

In the face of these facts, the Municipal Assembly seem to exhibit a stolid indifference to the exigencies of the times that is highly reprehensible. Several bills have been introduced for the purpose of securing more efficient action on the part of the Board of Health, giving to that board authority to close wells in parts of the city where hydrant-water is accessible, and appropriating money to enable the board to make a thorough inspection of the city for the purpose of having sanitary work done, so far as is possible, during the winter months; and another bill providing for more efficient measures with regard to constructing and cleaning privy vaults. All these bills are in the hands of the Committees on Sanitary Affairs in the two Houses, and there they seem doomed to remain. Possibly the report that cholera has been developed in the city already may arouse these committees from their disgraceful indifference and secure the enactment of the necessary ordinances.

Considerable attention is now being given to the Missouri State Board of Health, and it seems that a pretty strong effort is being made to secure the repeal of the law creating the board. The attitude of the press is in the main hostile to the board. It is asserted that nothing of value has been accomplished, that the board has utterly failed to fulfill the objects for which it was created, and that it was composed of men who sought appointment as an honor to themselves instead of men whose reputation and standing in the profession would add honor to the board. While it is true that the board has not accomplished so much as was hoped and expected, it must be said in its behalf that the law under which it has worked is defective in several material points, and that the profession through the State have not given the board that support and sympathy which it had a right to expect. It is to be hoped that the Legislature, instead of abolishing the board, will amend the law, and that the new Governor will use better judgment in selecting members of the board than his predecessor did.

The St. Louis Medical Society, at its annual meeting on the first Saturday evening of the year, elected Dr. Legrand Atwood president, Dr. W. B. Dorsett secretary, and Dr. Garland Hart treasurer. At the following meeting two important measures were discussed. The present place of meeting is the hall of the Board of Public Schools, on Seventh and Chestnut Streets, for which the society pays simply the salary of the janitor, $75.00 per annum. It had seemed to some of the members that the interest of the meetings would be increased, and the attendance as well, by having the meetings held at some point farther west. Accordingly, a proposition was made to hold the meetings alternately in the present hall and in some hall in the "West End." The society decided, however, by a very large vote, not to make any such change.

The other measure was the appointment of a special committee to consider whether it was possible for the society to procure a lot and erect a hall of its own. It will be a long time before any such result can be attained, but certainly it is greatly to be desired. It would seem to be much more feasible to secure the co-operation of several medical and scientific societies for the erection of a building, in which each should have an interest, and which should contain museums and libraries belonging to each.

Work on the building of the St. Louis Post-Graduate School of Medicine has been arrested for some weeks by the unusually severe weather. It is to be a fine building, and will have some pretensions to elegance of architectural finish. It is of pressed brick relieved with brown-stone trimmings, and, besides the rooms occupied as lecture-rooms and clinic-rooms, will have a hall, which has already been engaged by the Medico-Chirurgical Society as a room for holding its meetings and in which to deposit its library.

One of the successful educational institutions of the city is the College of Pharmacy, which last year erected a building of its own. I had the pleasure of going through it the other day with the genial professor of chemistry, Dr. C. O. Curtman. There are three separate lecture-rooms, those for the professors of chemistry and pharmacy being directly connected with the laboratories in which practical work is done, carrying out the instruction given in the lecture-room. An excellent supply of apparatus for purposes of illustration is supplied, and the institution is giving its students a most thorough drill, qualifying them fully for positions as practical pharmacists.

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Frank P. Foster, M. D.

NEW YORK, SATURDAY, JANUARY 31, 1885.

THE MEETING OF THE STATE SOCIETY.

Some weeks ago we published a partial programme, embracing the titles of all the papers that have thus far been announced, of the scientific proceedings of the annual meeting of the Medical Society of the State of New York, to be held in Albany on Tuesday, Wednesday, and Thursday of next week. While the list is not so long as that society and other like bodies have sometimes had before them, one or two of the topics are of a character calculated to meet with very general attention, and to call forth a lively discussion. It includes nineteen papers, so that, if all or nearly all of them are really read, there will be abundant material for the three days' session, and experience has shown abundantly that there is no commoner mistake made by those who have charge of the arrangements for such meetings than that of procuring more papers than can be adequately considered.

It is to be hoped that almost the whole time at the disposal of the meeting may be given to the full reading and discussion of papers, for the society has doubtless had enough of politics for the present, and will probably be in a mood to make short work of any attempt to lead it again into such distracting contentions as have figured conspicuously in its proceedings for the past two or three years. True, in one form or another, we presume, the project favoring State supervision of medical education will have to come up; but we are not aware of any facts tending to show that the members feel deeply enough either for or against such a measure to make serious dissension probable; moreover, at the last meeting the whole matter was given into the hands of a very capable committee, the chairman of which undertook to make a report that would be acceptable to everybody. Some curiosity is doubtless felt to learn the nature of such a report, and that state of mind, we fancy, will determine the attitude displayed by the great majority of those in attendance when the report is presented.

THE HYPODERMIC ADMINISTRATION OF STIMULANTS.

We desire to call attention to a brief abstract of an article by Dr. Arnozan, of Bordeaux, which appears in the present number of the journal.

The writer reports several cases of paralysis resulting from the direct irritation of nerves by deep injections of ether. There is no doubt that he is right when he attributes these phenomena to a consequent neuritis, and, if his frankness in publishing his mishaps were imitated by others, the indiscriminate practice of hypodermic stimulation would be less common than it is at present.

There undoubtedly are cases in which a timely resort to injections of brandy will carry patients safely through operations to which they would otherwise have succumbed, but some judgment should be exercised in this peculiar method of administering stimulants, since undiluted brandy is not free from irritating properties. But ether is clearly a powerful irritant, and, although its stimulant effects are valuable, it should be reserved for almost hopeless cases. We are convinced that the major, as well as minor, accidents which follow the introduction of the hypodermic needle are not few. The majority of practitioners do not take the trouble to acquire the art of giving a hypodermic injection—for it is a real art—and apparently regard the operation as one too insignificant to call for the application of any anatomical knowledge. In most cases the patient escapes with an abscess, but occasionally, when a more irritating fluid than Magendie's solution of morphine is injected, the result is more serious.

It is worth noting that six out of the seven patients whose cases are cited in the article alluded to suffered from paralysis of the extensors, due to injections in the neighborhood of the musculo-spiral nerve. The deductions which we would make are simple, and are worth remembering in hospital practice: Avoid the injections of irritating liquids, unless in extreme cases; select a spot which is known to be free from important nerves, especially the outer aspect of the thigh; use a fine needle, and do not plunge it in vertically.

THE USE OF IODOFORM.

"The reign of carbolic acid in Germany is over, and that of iodoform has begun," is the remark of a recent writer upon antiseptics, and in this sentence he expresses quite graphically the strong hold which this substance has obtained on the Continent. Scarcely less varied than the uses of cocaine are the cases in which iodoform has been recommended. We find it lauded as almost a specific in phthisis, and even hear of its successful administration in diabetes.

As a surgical dressing it seems to have superseded nearly every other—at least in certain clinics. One writer speaks highly of the treatment of cold abscesses by injections of iodoform dissolved in glycerin, and another thinks compound fractures are best treated by sealing them up with the dry powder. Koenig is an enthusiastic advocate of the use of this substance in operations upon the joints, and introduces from seventy-five to a hundred and fifty grains into a cavity, apparently without inducing unpleasant general symptoms.

Iodoform suppositories in uterine surgery, and pencils of iodoform for fistulous tracts, have been deservedly recommended. Ligatures saturated with the drug have been employed with success.

Although iodoform has not been used in New York as widely and systematically as in Germany, its merits have been clearly recognized, especially in gynæcology, where its true sphere seems to lie. There are drawbacks with this as with almost every other antiseptic, but on the whole we may concede that the enthusiasm of foreign surgeons is not ill-founded.

MINOR PARAGRAPHS.

THE AMERICAN ANTI-VIVISECTION SOCIETY.

It appears that there is an organization in this country that aims at "the restriction of vivisection within proper limits." This society lately held its second annual meeting in Philadelphia, and a number of well-known medical men are reported to have expressed themselves in favor of the anti-vivisection movement, one of them having gone so far as to say that about all that vivisection had ever produced was "scientific bric-a-brac." The society's idea of "the restriction of vivisection within proper limits" seems to be about that of the English anti-vivisectionists, for it was stated that it was its desire to get the State of Pennsylvania to pass a law similar to that in force in Great Britain—a law that hampers our brethren in that country, and with which they feel themselves handicapped in the race for the discovery of facts in natural science. We must credit the members of this society with good intentions, but we sincerely trust that they will fail in their purpose.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 27, 1885:

DISEASES.	Week ending Jan. 20.		Week ending Jan. 27.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	2	0
Typhoid Fever	13	3	17	6
Scarlet Fever	69	16	73	15
Cerebro-spinal meningitis	4	3	5	5
Measles	127	28	136	31
Diphtheria	66	19	39	20

The American Medical Association.—We learn that the Illinois Central Railroad will furnish an excursion train of Pullman parlor cars for the physicians and their families who think of attending the meeting at New Orleans, to leave Chicago on Saturday evening, April 25th, at 9 o'clock.

The Civil Service Medical Examination.—Dr. F. Tilden Brown, the secretary of "schedules E and F" of the Civil Service Advisory and Examining Boards, writes us that the examination for medical positions under the City Government, except those in the Department of Public Charities and Correction, will be held at No. 23 East Twentieth Street, on Tuesday, February 3d, at 3 o'clock.

The Demilt Dispensary.—Dr. R. W. Wilcox has been appointed a physician to the dispensary, in place of Dr. C. G. Currier, resigned.

The New York Polyclinic.—The Board of Directors and the Faculty held their annual meeting on the 20th inst. The secretary submitted to the board a report of the work done by the Polyclinic from its opening, November 7, 1882, to January 20, 1885, giving in detail the history of the organization of the school, its plan of work, and the results achieved. The number of practitioners who had studied at the Polyclinic as members of the class was 463. The attendance for the present session was twenty-five per cent. in excess of that for any former year. The following-named gentlemen were elected directors for 1885: Professor Fordyce Barker, M. D., LL. D., Professor Frank H. Hamilton, M. D., LL. D., Thomas Addis Emmet, M. D., LL. D., Professor T. Gaillard Thomas, M. D., Professor Alfred L. Loomis, M. D., the Hon. Benjamin F. Tracy, the Hon. Everett P. Wheeler, H. Dormitzer, Esq., Julius Hammerslaugh, Esq., H. H. Rogers, Esq., Charles Coudert, Esq., the Rev. Thomas Armitage, D. D., A. F. Willmarth, Esq., W. Allen Butler, Esq., George B. Grinnell, Esq., and William S. Wardwell, Esq.

Professor von Nussbaum, of Munich, has completed the twenty-fifth year of his service as a professor, and on the 6th of January the fact was made the occasion of a jubilee.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 18, 1885, to January 24, 1885:*

Tremaine, W. S., Major and Surgeon. Granted leave of absence for one year on surgeon's certificate of disability. S. O. 14, A. G. O., January 17, 1885.

Maus, Louis M., Captain and Assistant Surgeon. Granted leave of absence for two months on surgeon's certificate of disability, with permission to leave the Division of the Missouri. S. O. 16, A. G. O., January 20, 1885.

Stephenson, William, First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Omaha, Nebraska, and ordered to Fort Niobrara, Nebraska, for duty. S. O. 6, Department of the Platte, January 19, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service—October 1, 1884, to December 31, 1884.*

Bailhache, P. H., Surgeon. Granted leave of absence for thirty days, October 9, 1884. To proceed to Wilmington, N. C., as inspector, November 10, 1884. Relieved from duty as chief of Purveying Division, to proceed to Philadelphia, Pa., and assume charge of the Service, December 10, 1884.

Wyman, Walter, Surgeon. Granted leave of absence for fifteen days, October 15, 1884. Leave of absence for fifteen days in December, 1884, and thirty days in January, 1885; also for a further period from January 31, 1885, without pay, and with permission to visit Europe, December 8, 1884.

Purviance, George, Surgeon. When relieved, to proceed to Cincinnati, Ohio, and assume charge, November 12, 1884. To Louisville, Ky., as inspector, November 24, 1884.

Austin, H. W., Surgeon. To proceed to Boston, Mass., and assume charge, November 12, 1884.

Smith, Henry, Surgeon. When relieved, to proceed to Cairo, Ill., and assume charge, November 9, 1884. Granted leave of absence until January 15, 1885. December 17, 1884.

Stoner, G. W., Passed Assistant Surgeon. Relieved from duty at Delaware Breakwater Quarantine, to proceed to Cairo, Ill., in accordance with former orders, October 14, 1884. To Norfolk, Va., November 19, 1884.

Irwin, Fairfax, Passed Assistant Surgeon. To close Cape Charles Quarantine, October 31, 1884, proceed to Washington, and report to Surgeon-General, October 14, 1884. To take charge of the Service, port of Georgetown, D. C., and detailed as Acting Chief Clerk, Surgeon-General's office, October 30, 1884. To Philadelphia, Pa., and Baltimore, Md., as inspector, December 30, 1884.

Mead, F. W., Passed Assistant Surgeon. When relieved, to proceed to Baltimore, Md., and assume temporary charge, December 10, 1884.

Heath, W. H., Passed Assistant Surgeon. Granted leave of absence for thirty days on account of sickness, October 24, 1884. When relieved, to proceed to Pittsburgh, Pa., and assume charge, December 26, 1884.

Guitéras, John, Passed Assistant Surgeon. To report to Surgeon-General, November 8, 1884. Leave of absence extended fifteen days without pay, November 14, 1884.

Wheeler, W. A., Passed Assistant Surgeon. Relieved at Chicago, Ill., to proceed to Buffalo, N. Y., and assume charge, December 26, 1884.

Banks, C. E., Passed Assistant Surgeon. When relieved, detailed for special duty; upon completion of same, to Boston, Mass., for duty, October 28, 1884.

Peckham, C. T., Passed Assistant Surgeon. Granted leave of absence for twenty days, December 26, 1884.

Bennett, P. H., Assistant Surgeon. When relieved, to rejoin his station (Detroit), November 20, 1884.

Ames, R. P. M., Assistant Surgeon. To report to Surgeon Hutton, at Louisville, Ky., for examination for promotion, November 13, 1884.

Devan, S. C., Assistant Surgeon. To proceed to Tacoma, W. T., as inspector, October 14, 1884.

Kalloch, P. C., Assistant Surgeon. Granted leave of absence for thirty days, November 19, 1884.

Glennan, A. H., Assistant Surgeon. To proceed to Key West, Fla., for temporary duty, October 8, 1884.

Battle, K. P., Assistant Surgeon. Granted leave of absence for thirty days on account of physical disability, December 6, 1884.

Brooks, S. D., Assistant Surgeon. To proceed to New York, N. Y., for temporary duty, October 20, and November 26, 1884.

White, J. H., Assistant Surgeon. To proceed to New Orleans, La., for temporary duty, October 3, 1884. To escort insane seaman to Government Hospital for the Insane, December 17, 1884. Granted leave of absence for fifteen days, December 23, 1884.

Resignation.

Smith, Henry, Surgeon. Resignation accepted by the Secretary of the Treasury, to take effect January 15, 1885. December 17, 1884.

Appointment.

White, Joseph H., M. D., of Georgia, having passed the examination required by the regulations, was appointed an Assistant Surgeon, by the Secretary of the Treasury, October 2, 1884.

Promotions.

Peckham, C. T., Passed Assistant Surgeon. Promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury from December 1, 1884. November 28, 1884.

Ames, R. P. M., Passed Assistant Surgeon. Promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury from December 1, 1884. November 28, 1884.

Devan, S. C., Passed Assistant Surgeon. Promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury from December 1, 1884. December 5, 1884.

Urquhart, F. M., Passed Assistant Surgeon. Promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury from December 1, 1884. December 5, 1884.

Society Meetings for the Coming Week:

Monday, *February 2d:* New York Academy of Sciences (Section in Biology); Brooklyn Anatomical and Surgical Society (private); Medico-Chirurgical Society of German Physicians, New York; Morrisania Medical Society, New York (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; Providence, R. I., Medical Association; Hartford, Conn., Medical Association; St. Albans, Vt., Medical Association.

Tuesday, *February 3d:* Medical Society of the State of New York (Albany—first day); New York Obstetrical Society (private); New York Neurological Society; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Elmira, N. Y., Academy of Medicine; Medical Society of the County of Hudson, N. J. (Jersey City); Androscoggin County, Me., Medical Association (Lewiston); Hampden District, Mass., Medical Society (Springfield).

Wednesday, *February 4th:* Medical Society of the State of New York (second day); Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot County, Me., Medical Society (Bangor).

Thursday, *February 5th:* Medical Society of the State of New York (third day); New York Academy of Medicine; Boston Medico-Psychological Association; Society of Physicians of the Village of Canandaigua, N. Y.; Ohio State Sanitary Association (Columbus—first day).

Friday, *February 6th:* Practitioners' Society, New York (private); Ohio State Sanitary Association (second day).

Saturday, *February 7th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society, New York (private); Miller's River, Mass., Medical Society.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of January 13, 1885.

Dr. Thomas M. Markoe in the Chair.

Surgical Observations in the Treatment of the Diseases and Accidents of the Liver.—Dr. Charles K. Briddon read a paper with this title. [See page 121.]

Dr. Alfred C. Post said he once had a patient at the New York Hospital who was under treatment for lupus, to which he applied Dupuytren's powder, consisting of one part of arsenious acid and one hundred parts of calomel. After this powder had been applied for some time the patient was taken with high fever, vomiting, epigastric pain, and jaundice, and he thought that perhaps it was a case of poisoning by arsenic. At all events, the result was fatal, but at the autopsy he was relieved with regard to his suspicion concerning arsenical poisoning by finding that death had been caused by a very large gall-stone obstructing the common duct. A number of years afterward he was called to visit the late Professor Granville Sharp Patterson, whose condition was so much like that of the patient whose history he had just related that he diagnosticated obstruction from a gall-stone, and it proved to be so.

Dr. George A. Peters said he made the post-mortem examination in the first case alluded to by Dr. Post.

Dr. Post further remarked that there was intense jaundice in both cases, also extreme irritability of the stomach and obstinate vomiting, but death did not occur with coma, as in bile-poisoning. He had at one time under his care a gentleman who was attacked with febrile symptoms accompanied by acute pain in the right hypochondrium. At first he suspected pleurisy, but there was no evidence of this affection on physical examination. The patient continued to suffer from the localized pain, but gradually improved, so that he was able to go to Long Island, and Dr. Post lost sight of him temporarily. The acute febrile symptoms had in a measure subsided. During the patient's absence in the country there was a sudden aggravation of the symptoms, and a neighboring physician was called in, who found the man suffering from pneumonia, and was also very much disposed to question Dr. Post's diagnosis with regard to the early history of the case. The attack of pneumonia was a severe one, and was complicated with copious expectoration of dark chocolate-colored fluid. Dr. Post saw the patient subsequently, found a collection of fluid in the chest, and drew off a considerable quantity of very viscid, chocolate-colored pus. A short time before the patient's death there was a copious discharge of the same material from the bowels. It was evident that the case was one of hepatic abscess, which had opened into the cavity of the pleura, had also communicated with the bronchial tubes, and afterward had probably opened into the colon.

Dr. Peters referred to a case, under his observation some years ago, in which the patient had an attack of trouble apparently in the liver, and finally expectorated the contents of a large hepatic abscess which had opened into a bronchial tube. The patient made a complete recovery. Broken-down liver tissue was found in the material discharged, from the first. Subsequently the patient expectorated bile and pus for several weeks, but ultimately recovered, lived for several years, and died of another disease, the original abscess having healed.

Dr. Post had seen a lady, many years ago, who was subject to attacks of acute pain in the epigastric region and right hypochondrium, attended with jaundice lasting for a few days, which were relieved by the use of opiates and other remedies. These attacks appeared at irregular intervals. On one occasion she was seen by the late Dr. Richard K. Hoffman, who bled her freely, with immediate relief, and she never had a return of these attacks, although she had previously suffered from them repeatedly.

The Chairman said that Dr. Post's case reminded him of one in which a patient, about twenty years before his death, had suffered from what seemed to be inflammation of the liver, so that for many days his life was despaired of. The late Dr. Francis saw the patient with him in consultation, and finally suggested that it would be well to bleed him, to which suggestion Dr. Markoe acceded, and Dr. Francis bled the patient largely, which gave the gentleman great relief. Nevertheless, the symptoms progressed, again the patient seemed to be *in extremis* from dyspnœa, and there was a great prominence of the entire hypochondriac region, which was exceedingly tense, but with no fluctuation. After about two weeks, expectoration of an immense quantity of pus took place, and with it all the symptoms abated. This fact seemed to confirm the diagnosis of hepatic abscess, and to show that the abscess had discharged through the bronchial tubes. Dr. Markoe's feeling at first was that it was a post-hepatic abscess which had found its way through the lung. After several months the patient recovered substantially, although the expectoration would nearly cease and then return somewhat; after nearly a year he had expectorated bile which relieved him, and subsequently for several years he expectorated bile at intervals, which indicated that it was originally an abscess of the liver that had opened into the bronchial tubes, and that a fistula remained. The pus first expectorated was of ordinary color. The Chairman asked for the experience of the members with reference to the appearance of gall-stones in the passages from the bowels after symptoms of obstruction had existed and suddenly disappeared.

Dr. Briddon said he had often searched for gall-stones under these circumstances, but had never been able to find them.

The Chairman had asked the question because of a case that occurred many years ago, that of a lady, sixty years of age, who had been subject to attacks which had been diagnosticated as of this character, and undoubtedly the diagnosis was correct. The attacks were very severe indeed, and extended over a period of several years. After one of the most severe seizures she showed a gall-stone, as large as the last joint of his thumb; from that time the symptoms ceased, and she never had another attack.

Dr. Edward L. Keyes referred to a case, that of a young woman living out of town, whom he had attended during a few weeks while she was in the midst of a number of attacks of the most intense jaundice. The first onsets of jaundice repeated themselves for two or three years, and on one of these occasions she was covered with ecthymatous pustules due to scratching, suffered from vomiting, and became very much emaciated; her distress was so continuous that she lived chiefly upon morphine and chloroform. She said to him that gall-stones had been found in the discharges from the bowels on several occasions. About one month ago Dr. Keyes saw the patient, while she was again accidentally in the city, and she told him that she had been finally cured by taking large doses of phosphate of sodium for a number of months. The patient's mother, and also her grandmother, had suffered from similar attacks.

Dr. Briddon could bear testimony to the efficacy of phosphate of sodium in this class of cases, as he had employed it with apparent success in the treatment of three patients. In one the attacks were markedly severe, and the patient had taken morphine, large quantities of olive-oil, and many other remedies. He put her upon the use of one drachm of the phosphate of sodium three or four times a day, first recommended, as he recollected, by Dr. Bartholow. She continued these doses for a long time, and had been free from the attacks ever since.

Dr. Leroy M. Yale remarked that the use of phosphate of sodium in hepatic troubles was much older than Dr. Bartholow, and that Dr. Stephenson, of Edinburgh, had, a number of years ago, urged it especially for children under the conditions in which the gray powder had usually been employed. With regard to the use of olive-oil, he thought it had been determined that the supposed discharge of gall-stones after its use was really due to a sort of saponification of the excess of oil, the masses being really fatty.

Dr. Post had once been called to see a lady who was suffering from symptoms of obstruction of the bowels, and, on examination, found a solid mass occupying the rectum, which, when scooped out, was found to contain hundreds of pills imbedded in hard fæcal matter, the whole mass resembling the mineral known as pudding-stone.

Dr. Peters referred to the case of a young lady who took a great number of cathartic pills without any effect, in which it was conjectured by some that she did not take them, because of the immense number which she said she had swallowed without producing any result. It was subsequently found out that she sewed each pill up in a piece of tamarind-skin, and that she also had an accumulation of undissolved pills.

Dr. Post inquired whether, when gall-stones had reached a size sufficient to produce symptoms of obstruction, they passed through the duct directly, or ulcerated their way into the bowel.

The Chairman referred to a specimen in the New York Hospital Museum in which a large gall-stone had passed partly through the duct, and had there become impacted and remained, seeming to illustrate the possibility of gall-stones of considerable size passing through the duct.

Dr. Henry B. Sands believed that when the gall-stone was a very large one, such as would be likely to occasion intestinal obstruction, it never passed through the duct, but always into the duodenum by ulceration, the intestine having become previously adherent. In answer to one of the questions as to gall-stones being seen in the discharges from the bowels, he recalled a case which he had seen, in consultation with Dr. Chamberlain, in which a lady had been very ill, was jaundiced, and had passed quite a number of gall-stones, probably from six to twelve, and the pain and other symptoms had subsided. What impressed them most was the consistence of these gall-stones, which had facets, of the diameter of about a quarter of an inch, but were almost as soft as putty. It seemed singular that they should have preserved their shape while passing through the bile-duct. The late Dr. Parker had passed a gall-stone of unusual size, having a diameter of about half an inch. He was very ill before it escaped into the intestine, and had great pain, accompanied with jaundice and chills; but his severe symptoms subsided immediately after the passage of the stone, and, so far as Dr. Sands was aware, he did not pass any more, nor have any further trouble subsequently from this cause. When his body was examined after death, it was discovered that the gall-bladder was obliterated; there was no cavity, although the site of the bladder could be seen distinctly. The hepatic duct was present, but there was no cystic duct. It seemed probable that at the time the large gall-stone passed an ulceration was set up which resulted in the obliteration of the gall-bladder and the cystic duct.

Pendulous Cellulo-fibrous Tumor.—Dr. Briddon presented a specimen which was interesting chiefly on account of its rarity and size. It had been removed from the inner aspect of the thigh, at about its middle, of a woman thirty-five years of age, and had been nineteen years in developing. The entire growth was eight inches and a half in length, of which four inches and a half belonged to the tumor, the rest being the pedicle; the circumference of the tumor was eight inches.

NEW YORK ACADEMY OF MEDICINE.

Annual Meeting, January 15, 1885.

The President, Fordyce Barker, M. D., LL. D., in the Chair.

Annual Reports of Officers.—The Council recommended that five hundred dollars be appropriated for subscriptions to medical journals; that a sum not to exceed two thousand dollars be appropriated for the library; that the thanks of the Academy be tendered Dr. C. R. Agnew for his services, and a contribution of fifty dollars toward securing exemption of the property of the Academy from taxation, and to Messrs. Taft and Benedict, attorneys, for a contribution of one hundred and twenty-five dollars for the same purpose. The recommendations were adopted.

The Treasurer's Report showed a balance in the treasury of $1,880.47.

The Board of Trustees reported that $1,880 had been contributed toward liquidating the mortgage on the property of the Academy.

The Library Committee reported that the library contained about twenty-five thousand bound volumes, and about nine thousand pamphlets.

The Comma Bacillus.—Dr. E. C. Wendt exhibited some specimens of the comma bacillus received from Dr. Koch, and made a few remarks upon the possible relation of the microbe to Asiatic cholera.

An Obstetric Forceps and a Vaginal Speculum were presented by Dr. W. D. Schuyler, who briefly explained the advantages of the instruments, and for a full description of the forceps referred to the "New York Medical Journal," March 4, 1884, and for that of the speculum to the same journal for September, 1876.

Dr. F. A. Castle called attention to the fact that the instrument makers had so modified the shape of Nott's speculum that the principles upon which the original instrument was constructed could no longer be recognized.

Diseases of the Fallopian Tubes; their Relations to Uterine Displacements and the use of Pessaries.—Dr. W. Gill Wylie read a paper with this title, in which he stated that since May, 1883, he had operated in fourteen cases for disease of the Fallopian tubes. Twelve of the patients recovered, and two died of septicæmia on the fifth day after the operation. Eight were cases of pyo-salpinx, two of hydro-salpinx, and four of catarrh of the tubes with peritoneal adhesions. With one or two exceptions there were extensive adhesions. Short histories of the cases had been given at the meeting of the Pathological Society the night before, together with the report of the microscopist, Dr. H. C. Coe; therefore he would now read only some of the more important parts of his paper. With regard to the ætiology, anything which could cause endometritis might also induce disease of the tubes, and most cases of salpingitis were probably due to direct extension from the endometrium to the tube. Tubercular disease might also attack the tubes. No doubt gonorrhœa was a very frequent, but often unsuspected, cause of salpingitis. Specific endometritis would in many instances, although treated with the greatest care, cause salpingitis and local peritonitis. It might result in pyo-salpinx, but usually the tube became distended from constriction of the proximal extremity, and the poison was liable to extend to the surrounding tissues. Syphilis might cause salpingitis as it did otitis, etc. Septic poisons after abortion or labor were frequent causes of salpingitis. Obstructed effete matter within the uterus might be forced into the tubes. His experience led him to attach much more importance to local peritonitis than to local cellulitis; he did not believe in so-called chronic cellulitis. Diseased tubes were very commonly associated with diseased ovaries, and he thought that in most instances the disease of the tubes preceded that of the ovaries. When there was oöphoritis it might be regarded as due to extension of disease from the tubes and peritonæum. There were, however, certain diseases of the ovaries, such as cancer, which might cause secondary disease of the tubes. In hystero-epilepsy and hysteria he expected to find cystic or atrophied ovaries following a catarrhal condition of the tubes. Hæmorrhage into the tubes might cause more or less permanent distension.

The subjective symptoms were so varied, and salpingitis was so frequently associated with uterine diseases, that it was often overlooked, or not distinctly made out. The principal subjective symptom was pain in the iliac region. It was more marked in pyo-salpinx than in hydro-salpinx or catarrh of the tubes. Pyo-salpinx, especially if accompanied by abscess around the tube, caused very distinct local pain, and usually more or less tenderness. The objective symptoms until lately had been regarded as only imperfectly clearing up the diagnosis, but when an acute case had become more or less subacute, and then cotton pledgets imbued with glycerin and alum had been placed around the cervix two or three times a week, within from three to six weeks the condition of the parts would have become so changed as to permit of a positive diagnosis in almost every case, especially with the aid of an anæsthetic. The author then sketched the pathology of the various affections of the tubes.

As to treatment in cases in which there were adhesions, and he was not allowed to operate, he would not use pessaries; he was satisfied if he could render the uterus movable, and thus, by improving the circulation in the pelvic organs, give more relief than with pessaries. He had succeeded in tapping in two or three cases in which he was not allowed to operate, and in one of the cases a cure was effected, but it was believed that the enlargement was an abscess formed in an old hæmatocele. The two other patients were benefited. If disease of the tubes could be clearly made out, and the patient was bed-ridden, complete removal of the tubes and ovaries only would give relief. In the operation, the abdominal opening should not ordinarily be made greater than the width of three fingers, thus guarding against ventral hernia. It was important for the same reason in closing the wound to obtain perfect apposition of the fascia as well as of the peritoneal surfaces. He gave the patient pancreatized milk during four or five days preceding the operation, to guard against distension of the intestines with gas. If the omentum appeared to be formidably adherent, passing two fingers down through the opening, and moving them from side to side, one would be enabled easily to tear away the adhesions. It might, however, be necessary in some cases to tie the omentum below and above, and cut a part away. In order to get at the ovary easily, and to obtain a suitable pedicle, the broad ligaments should be unrolled.

Dr. E. NOEGGERATH said that, if dislocation of the uterus was to be considered the result of salpingitis and peritonitis, the form of dislocation was latero-version combined with anteversion. He did not doubt that Dr. Wylie had seen cases in which a sufficient amount of plastic material had been thrown out to carry the uterus backward, but such cases were exceptions. In ninety per cent. of the cases of retroversion he thought the uterus could be replaced and kept there by instruments, and the cases in which we could not replace because of posterior adhesions were very rare. In other words, a large percentage of retroversions were not accompanied by adhesions. As to the diagnosis of salpingitis, those cases in which there was ordinary salpingitis with very slight exudation should be considered apart from those in which there was salpingitis in its later stage, pyo- or hydro-salpinx already being present. In the first place, it was not necessary to feel the tubes at all in order to make a diagnosis; if there was decided perimetritis with catarrh, with minute condylomata about the hymen and labia minora, we knew there was also salpingitis, because the cases in which perimetritis existed without salpingitis were extremely rare. With regard to the surgical diagnosis, in case an operation was proposed, it was the shape of the tumor that was of the greatest importance. The tumor of salpingitis was very often not single, but divided into two or three sections, having the shape of a cone running in the direction of the lateral diameter of the pelvis. He believed, with Dr. Wylie, that in the extreme cases referred to no treatment other than an operation would prove successful. But the large majority of cases of salpingitis were not ready for an operation, and something else must be done. The treatment here would be very much like that described by the author of the paper, but that which he had found most efficient was the use of the waters of Franzensbad, in Bohemia.

Dr. A. J. C. SKENE said that, so far as his observation went, it was rare to see disease of the Fallopian tubes not preceded by gonorrhœa. But he differed with Dr. Noeggerath as to the rarity of pelvic peritonitis without disease of the tubes. In the diagnosis, the practical difficulty seemed to be to distinguish between a small ovarian cyst, more or less prolapsed, and pyo- or hydro-salpinx. He would inquire what might be the value of aspiration in diagnosis. If we found ciliated epithelium so generally present in pyo- and hydro-salpinx, what objection could there be to removing a portion of the fluid and examining it for diagnostic purposes? Out of twenty-one specimens which he had examined, in eighteen ciliated epithelia were found, indicating the condition present. As to treatment, it had been very well remarked that many patients were operated upon before other means had been exhausted. He thought that if a hydro-salpinx was aspirated the fluid might not reaccumulate, and the patient might recover.

Dr. P. F. MUNDÉ said that the greatest difficulty he had met was in the diagnosis. In the cases which most required an operation, those in which the swelling in the pelvic cavity consisted of a diffuse fullness, the diagnosis was most difficult. He doubted whether we should be able to make a positive diagnosis until after laparotomy had been performed. As regarded the influence of inflammation of the tubes upon displacement of the uterus, he was disposed to agree with Dr. Noeggerath in his views of lateral displacements, and some anterior displacements; but he had also seen some cases in which the uterus was retroverted, bound down, with marked salpingitis. He was rather disposed to think that they were as common as lateral displacements, and more common than anterior displacements. He agreed with Dr. Noeggerath, that in the majority of cases of retroversion the uterus was not adherent. So far as treatment was concerned, other than by laparotomy, he thought we could do but very little. There were certain cases of diffuse swelling in which he had given the patient relief from pain by means of the galvanic battery.

Dr. WYLIE was satisfied that, if Dr. Mundé would adopt his preparatory treatment, he also would be able to map out the exact condition of the pelvic organs in cases of salpingitis, and decide as to the necessity of an operation. As to treatment by aspiration, he thought it would require more than a withdrawal of the fluid to effect a cure; it would also be necessary to have perfect drainage. In cases demanding an operation he thought the rule not to tap any abdominal tumor in which it was intended to perform laparotomy should be observed. With regard to retroversion associated with salpingitis, his experience had been that in women who had never borne children lateral version or anterior version was common; but in the majority of women who had borne children there was retroversion, especially if the salpingitis was due to septic endometritis extending to the tubes.

Officers for the Ensuing Year were then announced to have been elected as follows: Dr. A. Jacobi, president; Dr. C. C. Lee, vice-president; Dr. L. Elsberg, corresponding secretary; Dr. A. L. Loomis, trustee; Dr. A. S. Hunter, member of the committee on admissions; Dr. F. R. Sturgis, member of the committee on education; Dr. A. H. Smith, member of the committee on ethics; Dr. E. D. Hudson, member of the committee on library.

A State Board of Medical Examiners.—Dr. C. C. LEE, chairman of the committee on education, reported that, after a full and careful consideration of the resolutions referred to it at the last meeting, the committee deemed it inexpedient for the Academy to take any action at present in regard to the matter.

The report was accepted.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of December 10, 1884.

The Vice-President, Dr. VAN GIESON, in the Chair.

Round-celled Sarcoma of the Uterus.—Dr. H. C. COE presented a specimen of round-celled sarcoma of the lining membrane of the uterus which he removed at an autopsy two weeks ago. The patient was over thirty years of age, married, and had entered the Woman's Hospital complaining of severe pain in the lower part of the abdomen and of frequent uterine hæmorrhages. The uterine canal was dilated and curetted, and about an ounce of fungus-like substance was removed. The woman died of pyæmia on the eighth day after the operation. Dr. Coe thought that sarcoma of the lining membrane of the uterus was not of so infrequent occurrence as was generally supposed, and that it was not improbable that a number of the cases were mistaken for fungous endometritis.

Portion of the Scapula removed by Operation.—Dr. JOHN A. WYETH presented a portion of the acromion process and spine of the scapula which he had removed for osteitis the result of traumatism. The point of interest in the case was the fact that complete healing of the wound and recovery took place under one dressing. Antisepsis was observed.

Necrosis of the Head of the Tibia.—Dr. Wyeth also presented some pieces of bone which he had removed seven weeks ago from a patient thirty-six years of age, who had received an injury of the tibia in the neighborhood of the knee joint two years before the operation. There was osteitis, which Dr. Wyeth thought had followed periostitis. It became necessary, in order to remove all of the dead bone, to open the joint cavity, which was done with great care, protecting the opening constantly with a piece of iodoform gauze. The patient recovered without any symptom of arthritis or of synovitis.

Hip-joint Disease.—Dr. Wyeth also presented some pieces of bone which constituted all that remained of the head of the femur of a boy who had been suffering for two years from hip-joint disease. He performed the operation of exsection with an exsector which he had exhibited to the society at a previous meeting, and he again spoke of the excellence of the instrument. Before the operation the shortening amounted to two inches, but new formation of bone had taken place to such an extent that there was now but one inch of shortening. This operation was not dangerous, and it should be resorted to as soon as invasion of the bone tissue was evident, thus delivering the patient from many years of suffering, from permanent lameness, and perhaps from death. He had never had but one patient die after the operation, and in that instance death took place six months subsequent to it, and was due to other causes.

Dr. Gibney remarked, concerning the second specimen, that the case was to be considered as one of tibial abscess, for which some surgeons at the present time performed the operation of trephining, but he thought the treatment adopted by Dr. Wyeth was very commendable, and it showed how timely interference would save the joint from becoming disastrously diseased. He had reported the case of a boy, five or six years of age, who suffered from tibial osteitis, no surgical, and very little mechanical, interference having been made. Finally a cold abscess formed, which ran a long course, the knee joint became implicated, and he had now what was called white swelling. Further than that, he had recently developed osteitis of the head of the opposite femur. Dr. Gibney felt convinced that, had the operation described by Dr. Wyeth been performed upon the tibia early in this case, the knee joint would not have become diseased, and tubercular osteitis of the left hip would have been prevented. He asked Dr. Wyeth why, in the case of his third specimen, it would not have been as rational to resort to his operation of gouging out the bone detritus as to perform excision?

Dr. Wyeth replied that one objection would be that, the hip joint being deeply seated, it would be difficult to remove all the dead bone, particularly if it extended below the line of the trochanter. But he was not willing to say the gouge should never be used on the hip joint.

Dr. Ripley asked whether it was common to find multiple abscess of the joints in patients who had not a decided diathesis. He thought that prolonged disease in the joint in the case narrated by Dr. Gibney would in itself indicate a marked tubercular diathesis, and if this was present there probably would have been subsequent disease of the hip joint, whether there had or had not been an operation performed upon the tibia.

A Case of Spina Bifida cured; Subsequent Development of Chronic Hydrocephalus; Death by Asthenia.—Dr. Gibney presented the brain and a portion of the spinal cord of a child which was first brought to his clinic on the 11th of July, when it was seven days old. At that time there was a small tumor over the coccyx and sacrum, which was smooth and perfectly translucent. There was at the end of the tumor a mark which indicated the presence of a partially healed ulcer. On the 23d the tumor seemed to be somewhat larger, and, without again examining it by the light test, he introduced an aspirator and found pus instead of serum. Dr. Ripley was of the opinion that the contents of the sac had become purulent from contiguity to the small ulcer. About the 26th both patellar reflexes were exaggerated, and it seemed that myelitis would develop. On the 29th he thrust a bistoury two or three lines into the tumor, when it seemed to enter a second tumor. After two weeks the tumor became harder, and it appeared that the outer swelling had collapsed and produced a cure of the spina bifida. There was no further trouble with the tumor, and the patellar reflexes became normal. About a month later prolapsus of the rectum occurred, and on the 23d of August the head was noticed to be growing larger. Hydrocephalus rapidly increased, and on the 1st of September Dr. Gibney began a series of aspirations of the cranial cavity, withdrawing at each operation only a small amount of fluid, without producing any unpleasant effects whatever. The last aspiration was performed on the 4th of December, when the needle seemed to strike a somewhat resisting substance. The child died on the 6th. At the autopsy the sac of the spina bifida was empty, but was capable of containing about ten minims of fluid. It was difficult to determine whether or not there had been an abscess over the spina bifida. There was no dilatation of the canal of the cord. Two pints and a half of serum were removed from the cerebral ventricles, which were dilated into one large cavity, destroying nearly all trace of convolutions. The cerebellum and the medulla were not involved. There were a few points on the brain indicating the place of entrance of the aspirator needle.

Dr. Ripley remarked that perhaps Dr. Gibney had used the needle too often. Bennett had tapped a child for hydrocephalus three times, death taking place after the third operation, and he thought that the tapping had been too frequently repeated. He cited Conquest, who had aspirated in nineteen cases of hydrocephalus, ten of the patients recovering, and in those cases the operation was repeated only every two weeks. This, however, was an unusual experience.

Dr. Gibney remarked that in this case he at first aspirated every two weeks, but afterward once a week.

Dr. Ripley spoke of two cases of undoubted hydrocephalus in young children, both patients recovering, one with treatment by aspiration and the other without. In both cases the peculiar hydrocephalic appearance disappeared and the cranial sutures united. Although it was commonly supposed that the fluid in hydrocephalus did not become absorbed, he was sure that it must have disappeared by absorption in these cases.

An Abortive Ovum.—Dr. Kücher presented a placenta of apparently five months' development, with a fœtus of three months. The uterus developed for a time, then began to diminish in size, the woman complained of loss of appetite and general uneasiness, and after a time the placenta and the fœtus were expelled.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of January 3, 1885.

(Concluded from page 106.)

Intra-cranial Hæmorrhage in Children.—The discussion of this subject being continued, Dr. Charles Henry Brown related the following cases:

Case I.—The patient was a boy, two years and seven months old, with left hemiplegia, whom he had had under treatment for seven months. The presentation was transverse and the labor long and hard, the child ultimately being extracted by the feet. When he was one month old it was noticed that the left arm was carried differently from the right and seemed to be powerless; and when he was six months he could not control the leg of the same side, and contractions were beginning in the arm. When he was fourteen months old the hearing and sight on this side were also deranged. He did not speak until he was two years old, and now could only articulate a few words, which could hardly be understood. Although at first considerable atrophy of the affected limbs was noticeable, the development was now quite fair. The flexor muscles were contracted, the thumb being crossed in the palm and the fingers tightly closed. The hand could not be opened and could not grasp anything. The leg was thinner than its fellow, and when the child stood up he was unable to put his foot to the ground, but rested upon the left toes. The tendon reflex on this side was exaggerated. He had epileptic attacks and was excitable and ungovernable. The treatment had been by the combined application of the galvanic and faradaic currents to the extensor muscles of the upper and lower extremities from two to three times a week, making each muscle respond well several times at a sitting. The reactions, with the exception of a slight diminution of the electrical irritability, were normal. The improvement in the arm had been remarkable, but the leg and foot, although the patient could control them readily, had not done so well. The eyes and ears were examined by Dr. W. O. Moore, who sent the speaker the following report: Vision in the right eye better than in the left eye. To external appearances both eyes were normal; the pupils were normal and reacted well to light. The accommodation was good. Ophthalmoscopic examination showed a large patch of choroidal atrophy over and about the macular region, the sclera showing through and the edges of the atrophic spot being fringed with pigmentary deposits. Similar small spots were seen in various parts of the fundus, and the optic nerve was whiter than usual. The media were clear. There were also several spots scattered about the fundus of the right eye, but the nerve was normal and the media were clear. No active trouble existed at this time. The appearances in the eye tended to show that a retino-choroditis had taken place in both eyes, though more marked in the left, and in the latter some neuritis had existed at the time of the inflammation, as shown by the atrophic optic nerve.

Ears.—Both drumheads were normal. There was disease of the internal ear, probably of the same nature as the eye trouble, originally an inflammation of the acoustic nerve, now a partial atrophy of the nerve substance, rendering the child a semi-mute.

Case II.—The patient was a girl, seven years old, with double hemiplegia dating from birth. The presentation was by the breech, and the labor prolonged and difficult. The physician in attendance, the late Dr. Hart, considered the child dead, but, after working for half an hour to resuscitate it, was rewarded by seeing it begin to breathe; it did not cry, however, for eight hours, and then kept it up incessantly. During the first two years of her life the girl suffered from sleeplessness, only occasionally falling into a doze from which the slightest noise would waken her. Soon after birth a general relaxed condition was noticed, which continued up to the second year; she was unable to sit up, and, as the mother said, seemed to "need starching." Contractures began early and grew worse rapidly, especially on the right side, so that in a few months the hands could not be opened. The case first came under notice about a month ago. The child was well developed and tall, and weighed about forty pounds. The head was large, and the face presented rather an idiotic appearance, as the chin drooped and saliva constantly dribbled from the mouth; the utterances were thick and hard to understand. In spite of this appearance of idiocy, the child was bright, was a willing scholar, and read quite well. The hands were flexed, and the arms adducted to the side and flexed. The right side was worse than the left. The chin rested upon the sternum most of the time. The patient was unable to stand, and, when she was supported upon her feet, marked contractures of the flexors and adductors were noticeable. The knees interfered and the feet interlocked, while the heel did not touch the ground. Choreic movements were noticed when she was sitting, and athetosis-like movements of the extremities when she was excited. The sensibility was good. No tendon reflex could be elicited. The child was emotional and easily unstrung, and cried at times for twenty-four hours. The right side was smaller than the left, and there was a diminution in the response to the faradaic current. She had been unusually healthy, and slept well at night, when there was perfect relaxation of all the contractures and a cessation of the choreic movements. The special senses were normal. There was a left antero-lateral curvature of the spinal column, for which a spinal jacket had been worn.

The treatment had been by the combined application of the currents, under which a very decided improvement had been noted. The dribbling of saliva had grown less, and the child was able to keep its mouth closed, move its cheeks, and open its hands better. There were fewer of the choreic movements, and there was more control of the muscles.

There were several points of interest in connection with these cases. First, the fact of their dating from birth and following difficult and prolonged labors where the delivery was by the feet, which pointed strongly to meningeal hæmorrhage as a cause of the difficulty. Second, the late effects, contractures, etc., and the comparatively bright mental capacity of both children. Third, the decided and satisfactory improvement in both under electrical treatment, and the encouragement it held out to us in similar cases.

Dr. Græme M. Hammond related the case of a child, three years old, who had been well until last August, when it fell from a chair, striking upon the vertex. In June it had fallen down stairs without receiving any apparent injury, and had an attack of cholera infantum in July. In August it had a fit, which the mother said lasted an hour, and this was followed by repeated spasms during the next three weeks, the left arm and leg moving continually. The mouth and tongue were also continually moving, and the trunk muscles were likewise the seat of convulsive movements, while the left eye was pulled to the extreme left. He could hold his water and fæces very well. The left testicle was swelled to an immense size. For five weeks after the attack the arm and legs were paralyzed. He became unable to stand, and lost his sight as well as ability to swallow the food placed in his mouth. He did not sleep for over three months, and, if he did happen to doze for a little while, he buried his face in the pillow, rested his head on the vertex, and drew up his knees. The face was flushed, and there was no rigidity or retraction in the cervical region. This child was now apparently idiotic; did not notice any noise nor understand anything said to him. He cried out as though in pain, and at night constantly struck his head against the sides of the crib. He could speak before the spasms began. He had had as many as four or five epileptic attacks in the course of the night and day. He now slept very well at times, and seems to have a considerable loss of muscular power on the left side, but not so marked as formerly.

In this case there was without doubt a hæmorrhage upon the surface of the brain, involving gradually the motor centers—first those for the trunk and legs—and progressively passing downward to the centers for the face.

The Chairman said the cases related by the first speaker, he had noticed, showed no increase of the reflexes, but a total absence of them, such as occurred in spinal affections. Muscles might respond to faradism, the test used in this instance, and still show degeneration. Might not these cases, then, be examples of the paralysis of idiocy, rather than of hæmorrhage? He thought a careful electrical examination of the affected muscles should be made, and the effect, in its bearing upon the possible diagnosis, carefully noted.

Dr. McNutt replied that the galvanic tests had been made when the case first came under her attention, and at that time the reactions were normal.

Dr. S. M. Roberts did not consider the ætiology in the first case related by the speaker of the evening at all clear, from the fact that the condition was developed gradually. When, as in some of the other cases, the paralysis was ushered in by fever, he would consider the possibility of its being cerebro-spinal fever. The case that developed the paralysis after small-pox he considered to be undoubtedly one of infantile hemiplegia. The child that died at twenty-three months had, in addition to the symptoms related by the doctor, a peculiar rotatory motion, so that if it was placed upon the floor or sofa it would immediately roll over upon its face. It also had at short intervals slight convulsive seizures, which he had considered to be due to the irritation of a progressive sclerosis in the brain.

He had had a case a few years ago in which, between the ages of six and twelve months, the patient had an attack of croupous pneumonia with a temperature of 104°–105° F., and died suddenly before the consolidation was complete. At the autopsy a large clot was found covering the surface of the left hemisphere, dissecting up the pia mater and causing some laceration of brain tissue. Another child, that came under observation at the age of three years, had, at two, had convulsions lasting twelve hours, followed by stupor. Immediately afterward it was paralyzed in the left arm and leg. It recovered some use of these limbs, and appeared for five or six months to be gradually improving, after which its condition remained the same. It had talipes, with slight contractures, but no wasting in the paralyzed parts. When three years old, it was suddenly seized with convulsions and died, and the parents refused to allow an autopsy. It seemed probable, however, that the hemiplegia in this case was cerebral and due to a clot.

In another case, that of a child seven years old, there was no history of any sickness until its second year, when it had an attack of scarlet fever accompanied with a very marked swelling of the glands of the neck. Five weeks after its recovery from this disease it was noticed one evening to be again feverish, and suddenly its whole body was convulsed and became stiff. The right arm and leg "worked," the left angle of the mouth was elevated and the face pale, and the child became unconscious. The next day there was no motion in the limbs, but the child was conscious and talked. Within one week the mouth was again straight, and shortly after the use of the limbs was regained. At the end of three months he had apparently recovered, but the muscles of the paralyzed side were still weak. Six months ago—four or five years after the seizure—this child had *petit mal.* He did not fall, but became frightened, his eyes would stare, and his whole body tremble. These attacks continued to trouble him until they were checked by the bromide of potassium. At one time he was having from four to thirty in the course of the twenty-four hours. This patient had a peculiar gutter-like depression running around the right side of the chest, which was probably due to wasting of the latissimus dorsi muscle. The paralysis in this case was probably a typical hemiplegia, and the more recent seizures were due to cortical epilepsy. The child recovered from the paralysis more perfectly than usual.

Another child, seven years old, died lately of congenital heart disease and cyanosis. At birth it was apparently all right, but when it was eight months old it was said to have had scarlet fever and measles, the latter being complicated with bronchitis. The child was convalescing favorably, but, having been put to bed one night apparently in its usual health, was found the next morning paralyzed upon the right side. Even after this attack it could make its wants known, and played and felt quite well. The paralyzed parts were also anæsthetic. This patient afterward became cyanosed, and had general anasarca and hydropericardium, with which he died. In this case the grasping power in the hand was never recovered, although the leg improved and the face became almost natural. The speech remained thick, however, but not so that the child could not be readily understood. An interesting feature of this case was that the attack was not followed by any fever or other evidence of disturbance of the natural functions, but she was able to play about the floor, dragging the paralyzed member after her. Upon the death of this child, permission was only accorded for the examination of the heart, and stenosis of the pulmonary artery was found hardly admitting a lead-pencil. There was also an opening in the septum between the two ventricles, the aorta arising immediately above, so that it would have been possible for an embolus to pass into the brain without first entering the lungs.

In the "Transactions of the Pathological Society of London" a case of phlebitis was reported, in which this complication permitted the passage of an embolus, with consequent death.

Dr. M. **Putnam Jacobi** presented, as the diagnosis of the first case that was before the society, pseudo-muscular hypertrophy, stating that the hardness of the calves, with the elevation of the heels, was characteristic of this condition. She called attention to the fact that not only was the tendo Achillis contracted, but there was thickening throughout the whole extent of the muscles of the calf.

Dr. C. A. **von Ramdohr** thought that a contracted pelvis ought to be particularly mentioned as an ætiological factor in the production of this condition, owing to the frequent early application of the forceps, before the molding of the head was complete and while it was still at the superior strait, and the injuries consequent on these conditions. He considered it a bad plan to put on the forceps above the superior strait, and, in a case in which he had been called in consultation recently, the physician in attendance had had the forceps in place for half an hour, although there was as yet no molding of the head. The forceps was removed and the child was expelled spontaneously, but bore the marks of the forceps. He considered it better to deliver by podalic version in these cases.

Dr. C. L. **Dana**, in speaking of the ætiology of this disease, referred to a case in which purpura hæmorrhagica was present at birth, and hemiplegia with tetanic convulsions set in on the fourth day, accompanied with bleeding from the bowels. Also, in speaking of the prognosis, he related the case of a child which had reached its twelfth year, and had been seized with right hemiplegia, following convulsions of five hours' duration when it was five years old. He had recovered from the hemiplegia, but was now left-handed, while previous to the attack he had been right-handed.

Dr. **McNutt**, in closing the discussion, said that she acknowledged that the seizures in her first case had presented rather a different character from those of the usual run of cases of infantile hemiplegia. There were no convulsions, but when the child began to go about, after his recovery from the measles, he dragged his feet as though they were heavy. For a time the symptoms were progressively worse, and in time the contractures set in, first in the upper extremities, then the heel became involved, so that it could not be put to the floor, and the toes were curled under. Although he could speak before the seizure, it was only with difficulty that he could be understood now. The muscles of the upper extremity and the extensors of the feet were now atrophied. The history was certainly not that of anterior polio-myelitis, but it might be one of amyotrophic degeneration of cerebral origin. In this case the contractures would correspond with the progress of a descending sclerosis along the lateral columns, while they would be released and atrophy would set in with its invasion of the anterior horns. From the loss of tonicity in the anterior tibial group, there would then be a natural hypertrophy of the calf muscles, from the unantagonized flexors of the part. Ross had remarked that the diagnosis between primary muscular atrophy and pseudo-muscular hypertrophy was difficult in some cases. There could not be a pseudo-muscular hypertrophy, as there was no lordosis and no difficulty in going up or down stairs or in rising from the floor. In Case III there was no general stiffness or other symptom that would indicate that the fever had been one of cerebro-spinal origin. In one of Heubner's patients that had had the initial fever, atrophy had been found about the fissure of Rolando, and in one of the cases presented by the gentleman who advanced this proposition there were thirst and a hot skin preceding the attack. The speaker then presented a larynx that had been removed from an infantile hemiplegic, who had also had stridulous breathing and dyspnœa. It was of small size and presented a number of warty growths, which were composed of the natural tissue of the parts and were supposed to be due to a puckering of the mucous membrane from arrested development. Little, in an incidental way, had recorded this complication in this disease.

Dr. Milton Josiah Roberts remarked that all present must have profited by listening to the carefully detailed histories which had been presented. The class of patients under consideration had as yet only been carefully studied as to the ætiology, pathology, and treatment of their disability, by a few well-trained observers. Examples of infantile hemiplegia, spastic paralysis, or spastic rigidity, as the condition had been variously called, involving one or both of the lower or upper extremities to a greater or less extent, were not so uncommon as the scarcity of literature upon the subject would seem to indicate. He had met with a considerable number of these patients in private and public practice. In the wards of the city hospitals on Randall's Island, where he visited, were to be found many patients thus disabled.

Pathologically, we could broadly classify abnormities resulting in deformity or disability under three heads: *first*, those due to deficient development; *second*, those wherein some degenerative process was ingrafted upon normally developed structures; *third*, those in which the normal limits of development had been exceeded. As the cases under consideration this evening gave no signs of having advanced beyond the limits of normal development, they naturally fell under one, or more probably under both, of the preceding heads; that is, they were either due to deficient development, or to degenerative changes in previously normal tissue, or to both causes.

It was the speaker's opinion that the testimony of those who had studied this subject went to confirm the idea that we might have precisely similar cases, symptomatologically, which did not have the same causation. At any rate, it had been his lot to meet with examples of more or less profound muscular disability involving both lower extremities, and sometimes both of the upper extremities as well (slightly or considerably more marked upon one side than upon the other), and with or without ability to hold the head erect, in which some gave the history of a perfectly normal birth with disability from the first; others gave a history of difficult or instrumental labor, or suspended animation after birth, followed immediately, or a short time subsequently, by paralytic symptoms; others, again, gave the history of a normal birth and the gradual or somewhat sudden development of the disability, two, four, or six months after birth; and others, finally, were born prematurely, the parturient process being uncomplicated, but the infant showing from the first absolute or partial loss of muscular power in the lower and upper extremities, inability to cry with any vigor, or hold the head erect, and in one case to move it from side to side. With some of these children—for all of his patients had happened to be under twenty years of age, usually under ten years of age, and sometimes infants—the general health had been good, and the growth of the individual as rapid as under normal circumstances, notwithstanding the patient's inability to take a mouthful of food except when administered by other hands than his own. Others of these patients had been much smaller than the usual run of children of their age.

What concerned us most, however, from the practical standpoint, was the treament of these patients. Could they be cured, or even relieved, by therapeutic agents? Or did they progress as favorably when left to themselves as when under treatment? In other words, what was the prognosis for patients suffering with this class of disabilities? The answer to anxious parents or friends which he was accustomed to give to this question, and the one which he was willing to stand by in the presence of this assemblage, was, in substance, about as follows:

From what we knew of the pathology of these cases, cure, in the sense of establishing or restoring a physiological condition of affairs, was, in the vast majority of instances, a result which we should not look forward to attaining. And for this reason, that it was useless to hope for a functional regeneration of sclerosed or otherwise structively disorganized nervous tissue. If, then, cure was rarely if ever to be looked forward to, could we hope for an amelioration of these disabilities? Where the patient had lived long enough for us to make observations regarding the natural progress of events, and it had been noted that, with increasing age, more or less improvement had taken place, it was, in his opinion, rational to expect that still greater and more rapid improvement would result from the proper use of appropriate remedial agents. By proper remedial agents, as applied to these cases, he meant those measures—whether hygienic, gymnastic, medicinal, electrical, or mechanical—which promoted general and local nutrition, and especially those which aided and directed the functional activity of tissues not yet structurally disorganized. When infants were brought to us, our prognosis must be based principally upon the degree of disability observed. If the infant could cry lustily and freely, move its arms and hands, there was considerable ground for hope, even though all the movements executed were not well co-ordinated and the paresis was more or less marked in one or both of the lower extremities. If, on the other hand, the infant was absolutely unable to cry with any vigor, or to hold his head up, or to move it from side to side, was entirely powerless in the lower extremities, and could only feebly execute the simple movements of flexion and slight extension of the fingers, being unable to raise the arms, the prospects for much improvement were by no means encouraging.

Regarding treatment, he would confine his remarks entirely to the mechanical part of it, which he considered very essential to getting the best attainable results. The main therapeutic indications, from the mechanical standpoint, were to sustain the patient in natural positions and to artificially direct (co-ordinate) his movements so as to encourage physiological activity. As many of these patients were unable to even sit or stand alone, the mechanical appliance used to fulfill the first indication, that of sustentation in normal attitudes, should be of sufficient strength to bear the weight of the individual for whom it was constructed, and should not rigidly retain the body or limbs in any fixed position; otherwise the movements necessary to maintain a healthful condition of the muscular system would be prevented.

The second indication, that of co-ordinating the movements of the limbs, should be met by appliances which, while effectually preventing abnormal movements, should utilize every muscular effort on the part of the patient to execute some movement of physiological importance to the economy; in other words, the flexed condition of the limbs and their sprawling, misdirected movements, so often observed in these patients when endeavoring to walk, should be corrected by properly constructed and applied splints, which exerted a gentle elastic force, maintaining the equilibrium of the body and promoting the execution of normal movements. In some instances, where the patient retained the power of moving all parts of the body, but was unable to sit up, or to hold the head erect, or to co-ordinate any of his movements, it was necessary to construct somewhat elaborate mechanical appliances in order to fulfill the therapeutic indications. For a patient of this kind, he had devised an apparatus which effectually supported the spine, maintained the head erect, overcame the flexion of the upper and lower extremities, and directed their movements in normal paths. The apparatus, though necessarily somewhat complicated, was exceedingly light and not irksome to wear, did not interfere with the normal movements of the body, or excoriate the soft parts, was easily removed and reapplied, and possessed the additional merit of being inconspicuous, as it was almost entirely covered by the clothing.

Dr. Roberts concluded his remarks with brief comments on the peculiarities of four patients suffering from these disabilities, the photographs of whom he presented. He also exhibited numerous photographs of mechanical appliances which he had devised for this class of patients. Finally he displayed several novel mechanical devices of his invention, of general and special applicability.

Syphilitic Disease of the Lung.—Dr. William H. Porter presented a specimen showing a lesion of the lung, probably of syphilitic origin, which might be classed as a syphilitic interstitial pneumonia, pulmonary syphilis of the adult, or syphilitic phthisis. The lung showed cheesy nodules, with small and large cavities, and was shown for the relation it might have to the coming discussion by the society on the subject of phthisis. The history of the case, in brief, was as follows:

P. L., aged thirty-seven, a Swedish sailor, had a family history that was good and free from phthisis. His father died of old age at seventy. His mother was living, strong and healthy, aged seventy. His brothers were all living and strong. For the past eighteen years he had been on an American ship. When a boy, he had varioloid. Fifteen years ago had "the fever in India." Ten years ago he contracted syphilis, which was followed by the eruption, alopecia, and osteocopic pains. One year ago he had dysentery, which lasted six months, and shortly after his recovery he contracted a severe cold, coughed badly, and spat up large quantities of yellowish muco-purulent sputum. He complained of great pain in the left side. On December 15, 1878, he had his first hæmoptysis. He also complained of pain in the right parietal region. He had had pain and suppuration in the right ear, in which he was now partially deaf. He was first seen December 21, 1878, when he complained most of a persistent cough, which was quite hard. He also suffered from severe dyspnœa upon the slightest exertion. He expectorated most at night. He had severe pain in the right chest and left parietal region. There was marked tenderness along the crest of the tibia, and slight pre-sternal tenderness. His appetite was good, and his bowels were regular.

Inspection showed diminished mobility; all the accessory muscles were forcibly contracted on his attempting a full inspiration. Palpation gave some increase in the fremitus over the whole chest, and there was slight pre-sternal tenderness.

Percussion gave diminished dullness, except over the posterior and inferior portion of the left lung, which was dull. Auscultation gave a prolonged and harsh inspiratory and expiratory murmur, with a marked pause between the two. At points broncho-vesicular breathing and voice were distinct. As a rule, no moist râles were heard. A few subcrepitant and large mucous râles were heard behind, near the base of left lung. Vocal fremitus was increased over the whole of both lungs. The diagnosis was chronic bronchitis and pleuro-pneumonia, or syphilitic phthisis.

The urine was pale and limpid, having the appearance common to the tertiary stage of syphilis; its reaction was acid and its specific gravity 1·011; no albumin; no sediment; microscopic examination negative. From this time until about March 1st he continued having alternating attacks of headache and hæmoptysis. The former were temporarily controlled by powders containing one forty-eighth of a grain of calomel every fifteen minutes until relieved, fifteen or twenty generally being sufficient. The hæmorrhage was treated by ergot. He, however, grew weaker, coughed more, and complained bitterly of the dyspnœa, but had no fever and did not lose flesh. His muscles were soft and his strength was deficient. The first two weeks in March he seemed to gain in every respect, but could not bear the "mixed treatment." From the middle of March on he grew worse, signs of pulmonary softening developed, and his cough and dyspnœa grew worse, also the expectoration. He rapidly lost strength, but retained his flesh, and died from exhaustion April 23, 1878, about nine months after the pulmonary symptoms first manifested themselves.

Necropsy (twenty-one hours after death).—Body not emaciated, but fairly well supplied with subcutaneous fat.

Pericardium and heart normal. Weight twelve ounces.

Both lungs were firmly bound to the chest-wall and diaphragm by a thickened and adherent pleura, the right more firmly than the left. Upon section there were found fibrous induration, numerous small and one large cavity at the apex, interspersed with cheesy masses and small granular bodies, which at the time were thought not to be true tubercles. The cavities were absent in one lung. The bronchial glands were enlarged, indurated, and deeply pigmented.

The spleen was soft and enlarged, and weighed nine ounces.

Both kidneys were enlarged and the seat of parenchymatous infiltration of wasting disease.

The liver was fatty and waxy.

The diagnostic points of this disease were: Persistent cough and great dyspnœa. Abundant muco-purulent expectoration. Loss of strength but no emaciation. Marked tenderness of the tibia and sternum. Diminished expansion of chest, excessive exertion of accessory respiratory muscles. Diminished fremitus, diffuse dullness, prolonged and high-pitched inspiratory and expiratory murmur, with a decided intermission between the two, and spots of broncho-vesicular, breathy, increased vocal resonance, and no moist or dry râles of any kind, was the rule. Under the "mixed treatment" they rapidly improved, and all pulmonary symptoms disappeared and an opportunity for a necropsy was rare.

Dr. Dana inquired if the lung had been examined for the *Bacillus tuberculosis*.

Dr. Porter replied that it had not, as the patient's death had antedated the frequent search for bacilli.

Miscellany.

THERAPEUTICAL NOTES.

Paralysis following Hypodermic Injections of Ether.—Arnozan ("Gaz. hebd. de méd. et de chir.") contributes a long article on this subject, in which he cites a number of interesting cases. In several instances in which injections were made under the skin of the posterior aspect of the forearm, paralysis of the extensors was noted within a few minutes. Under the use of the constant current the condition eventually disappeared. In one case a deep injection into the thigh was immediately followed by darting pains, which persisted for two weeks. The leg became livid, and wasted away, and the reaction of degeneration was observed. The patient subsequently developed a trophic ulcer on the heel, and improved very slowly, though under treatment for a year. The writer thinks that the phenomena described are really symptomatic of neuritis, which is due to the irritating action of the ether that has been deposited in the neighborhood of the nerve. [It is to be hoped that the publication of these facts will lead to more caution in those who are accustomed to resort freely to hypodermic injections of ether, brandy, and even ammonia, in cases of collapse.]

Iodoform in the Treatment of Compound Fractures.—Bach (Inaug.-Diss.; "Centralbl. f. Chir.") speaks highly of the direct application of powdered iodoform to open fractures. The powder is sprinkled upon salicylic cotton, and placed over the wound. Over this is applied a quantity of iodoform gauze, and the whole is secured with a plaster-of-Paris bandage. Of twenty-eight cases which were thus treated, sixteen ended in perfect recovery. The bandages were not disturbed during the entire process of healing. In another series of twenty cases, twelve were cured. The writer arrives at the conclusion that the treatment with "iodoform-scabbing" (*Iodoformschorftherapie*), without drainage, is to be recommended in all cases of compound fracture in which the laceration of the soft parts is not too extensive. A neglected wound, in which there are numerous pockets filled with pus, is a contra-indication to this method of procedure.

Iodoform Exanthemata.—Neisser ("Deutsche med Woch."; "Med. Chronicle") describes six cases of eruption following the external use of iodoform. It was essentially impetiginous in character, and was relieved by the application of a five-per-cent. solution of acetate of aluminium.

The Administration of Thymol, Phenol, Salicylic Acid, and Boric Acid.—Vigier ("Gaz. hebd. de méd. et de chir."; "Lyon méd.") says that these acids are generally used in too concentrated solutions, and advises the following proportions as the most convenient: Salicylic acid and thymol, two parts to one thousand of water; phenol and boric acid, thirty parts to one thousand of water. With these proportions, no alcohol is necessary in order to preserve the clearness of the solutions. Salicylic acid, when administered in the strength mentioned, is less irritating and is more rapidly absorbed than when given in the form of pills or in capsules.

An Ointment for Lichen Ruber.—Rockhart ("Monatsh. f. prakt. Dermat."; "Lyon méd.") suggests the following:

Corrosive sublimate	8 to 15 grains;
Phenol	5 drachms;
Diachylon ointment	16 ounces.

To be rubbed in twice daily.

An Ointment for Traumatic Keratitis.—Hirschberg ("Union méd.") proposes the following:

Sulphate of atropine	1 grain;
Vaseline	2½ drachms;
Distilled water, enough to make an ointment.	

In keratitis following injuries, especially in infants, a bit of the ointment about as large as a pea should be introduced into the affected eye, which is to be kept covered.

A Remedy for Snake-bites.—Fonssagrives ("Union méd.") suggests this preparation:

Ammonia water at 22°	20 drops;
Syrup of opium	1 ounce;
Cognac	2 ounces;
Madeira wine	4 "

To be given at frequent intervals, in doses of a tablespoonful. In more urgent cases, two drops of ammonia water may be given in a tablespoonful of wine or cognac, every five minutes until effects are observed.

Gibier's Pills for Diarrhœa.—According to the "Union médicale," the formula is as follows:

Sulphate of quinine	⅓ grain;
Extract of aconite	½ "
Extract of opium	⅙ "
Tannic acid	½ "
Spirit of quince, Powdered licorice,	enough to make one pill.

The directions are not given.

A Lotion for Wounds.—Sendneri (*Ibid.*) suggests the following rather complex formula:

Sulphate of cinchonine	15 grains;
Alum	30 "
Tincture of opium	75 minims;
Tincture of benzoin	5 drachms;
Distilled water	7 ounces.

Compresses are dipped in this solution and applied directly to wounded surfaces. It is said to possess at once antiseptic, astringent, and anæsthetic properties.

An Application for Cutaneous Fissures.—Vigier ("Gaz. hebd. de méd. et de chir.") observes that pure glycerin is not always an agreeable application to the hands and face. Accordingly, he suggests the following mixture:

Glycerin at 30°	5 drachms;
Tannic acid	12 "
Rose-water	3 ounces.

To be applied night and morning.

Resorcin in Laryngology.—Andeer ("Centralbl. f. d. med. Wiss."; "Med. Chronicle") recommends the topical application of this drug in cases of ulceration of the larynx. It acts both as a disinfectant and as a local anæsthetic. In a strong solution, it possesses caustic powers, but when diluted it is merely astringent. Unlike nitrate of silver, it does not cause cicatrization after the healing of surface lesions.

Naphthalin.—Priestley ("Med. Chronicle") recommends this drug highly in vesical catarrh, and suggests the following formula:

Purified naphthalin, White sugar, each	75 grains;
Oil of bergamot	½ minim.

Divide into twenty powders. Dose, five to twenty daily.

The following directions are given for preparing an enema containing the drug: Boil half a drachm to a drachm and a half of naphthalin in a cupful of water, stirring thoroughly; add a pint of infusion of chamomile or marsh mallow. [We have referred in a former number to the therapeutical properties of this substance, and need only add that its effects are not regarded by German authors as constant or reliable.]

Cremation in Paris.—We learn by the "Union médicale" that the municipal authorities of Paris have under consideration a plan for a crematory at Père-Lachaise, to be employed for the incineration of bodies that have been used for anatomical purposes.

The University of Leipsic.—The "British Medical Journal" learns that the faculty of medicine have nominated Dr. von Recklinghausen, Dr. Ziegler, and Dr. Birch-Hirschfeld to the Saxon Minister of Education as the candidates from whom a successor to the late Professor Cohnheim may be chosen. The same journal adds that the choice will probably lie between Ziegler and Birch-Hirschfeld, as it is not supposed that von Recklinghausen will leave Strassburg.

The Ohio State Sanitary Association is to hold its second annual meeting at Columbus on Thursday and Friday, the 5th and 6th inst.

St. Mary's Hospital, Brooklyn.—At the second annual dinner, which, as we briefly mentioned last week, took place Monday evening, the 19th inst., at the Clarendon Hotel, Brooklyn, the attending staff, the present and past members of the house staff, and a number of friends of the institution, including many of the best-known medical men of Brooklyn, met together, and learned of the continued prosperity and efficiency of the hospital. Dr. John Byrne presided, and both he and several of those who were present, whether as members of the staff or by invitation, made speeches appropriate to the occasion.

The American Journal of Obstetrics.—It is announced that the separate department for diseases of children has been discontinued, and that articles upon pædiatrics will hereafter be included in the body of the journal. Dr. Fowler, who has had charge of the department, is to be the assistant editor.

The Paris Ambulance Service.—The following characteristic letter was written by Victor Hugo, to express his sympathy with the ambulance movement in Paris: "New York began; Paris continues. That which you advise, sir, is advice founded upon reason and upon evidence. Success will confirm your statements. It is clear, it is pure, it is humane. I approve and congratulate you."

Lectures and Addresses.

VALEDICTORY ADDRESS

BY THE RETIRING PRESIDENT,

FORDYCE BARKER, M. D., LL. D. (Edin.),

DELIVERED BEFORE THE NEW YORK ACADEMY OF MEDICINE, FEBRUARY 5, 1885.

Fellows of the Academy: In now closing my official relations with the Academy, it is both a pleasure and a duty to briefly recall the more prominent features in its history during the period of this connection. I will also venture to offer a few suggestions, derived from my long experience in this position, as to some points relating to its future growth, its increasing usefulness, and its influence on the profession. As I know you will be impatient for the intellectual feast which is to follow in the address of my successor, I shall be as brief as is consistent with a clear statement of the points to which I think it desirable to ask your attention.

It has been my good fortune to hold this position at a time when the profession were becoming more alive to the importance of this institution and more and more ready to contribute material aid for its growth and support; at the same time, there was a new development of mental activity in the profession, not only in this city, but all over the world, as demonstrated by great and important discoveries in science, and a wonderful increase and valuable additions to medical literature.

As I have referred to these facts more in detail in former addresses before the Academy, I will not detain you now by further allusion to them. I will only briefly refer to a few of the most notable events connected with the Academy during my administration.

First to be mentioned is this new and commodious hall, which could not have been built so soon except for the munificent donation of one noble benefactor, Dr. Abram DuBois, and contributions, to the full extent of their hard-earned means, by many others. We are rapidly outgrowing even this new hall, and must soon have another, as our library is now nearly filled. As I learn from Mr. Browne, our excellent assistant librarian, the Academy had when this hall was built, in 1879, about 9,000 volumes; it now has about 35,000 volumes and 15,000 pamphlets. Its circulating department has about 6,000 volumes, which our Fellows can take out of the library for consultation at home. In our journal-room—open, like the library, for all who may wish to read in our rooms—there are 225 medical journals, in all languages in which there is to be found a medical literature.

The Academy is greatly indebted to Messrs. William Wood & Co. and Messrs. D. Appleton & Co. for large donations of their new publications, and, I believe, to some foreign and other American medical publishers. We gratefully acknowledge the generosity of these gifts, and we feel assured that they were made from entirely generous motives. But we may be permitted to express the conviction that both publishers and authors will find it a wise business policy to place a copy of every new medical work in our library, as it has been estimated by a competent authority that one copy of every good new book in this library will secure the sale of at least ten more. The library is visited not only by the profession of this city, but by medical men from all parts of the country, who come to this great metropolis. They have seen in some medical journal a notice of a book, but have not remembered who were the publishers; coming to our library, they examine it to see if it is what they want.

The next notable event in the history of our Academy, since I have held this position, is its absorption of another very important organization, the Medical Journal Association, which, to quote from a former address, "not only added largely to our library, but also to our moral and intellectual power."

The truth of history demands that the fact should be mentioned that nearly two years ago the Academy passed through the segment of a cyclone, but, like a good steamship, driven over a sand bank near a lee shore, with its engines temporarily disabled, it escaped being hogged, and its seams were not opened, but its barnacles have been scraped off, its bottom has been cleaned, and it has since gone on its voyage with favoring winds and fine weather. All who are familiar with its past history, and who are unbiased by personal feeling or prejudice, must agree that the Academy has more nearly approached its avowed aims and its high purposes during the past year than in any former one since it was founded. It has had a larger increase of prominent men, and of young men of promise, than in any previous year since that in which it was organized, with the exception of the year when the Journal Association came into it. More than four times as many papers have been offered to me than there have been sessions in which to listen to them, as these sessions had been promised to previous applicants months before; very many of these papers have been withdrawn, and I have afterward seen them either in the medical journals of this city, or in those of Philadelphia or Boston. It is bare justice for me to add that I have generally found them to be of such merit that I greatly regretted that the Academy could not have had the credit of their first publication.

The papers which have been read at our meetings have been characterized by careful preparation, thorough research, and original and often valuable hints as to pathological explanations and therapeutical indications. Our discussions have been of such excellence that I am quite certain that every one carries away from our meetings either new suggestions or new information which amply compensate for the evening passed in this hall. In a scientific body like this all discussions should express the results of mature inquiry and a clear and forcible statement of the reasons which have led to positive practice. In some papers the novelty of opinions advocated and the original methods of practice proposed, whether medical or surgical, may be so exclusively a matter of individual experience that all discussion must necessarily be limited at first to inquiries and *a priori* objections, founded on anatomical, physiological, or pathological grounds. Papers of this class should be the subject of a most thorough and searching examination; for they may be either mischievous, and their effect for evil must be effectually exposed, or they may possess positive value which should lead to prompt acceptance and adoption.

To secure such discussion as will represent the most advanced knowledge of the Academy on any special topic, I have at our recent meetings adopted a plan first introduced by Dr. V. P. Gibney: writers of papers have been requested to send to a few of those whom they knew to have given special attention to a subject the points which it would suggest for discussion, printed on a small slip of paper, and especially asking those who held different or opposing views. They thus have time to arrange and formulate their knowledge and opinions, and the time of those present at the meeting is not wearily wasted in listening to crude, profitless, and digressive talk.

The reports of the treasurers of the Academy and of the Board of Trustees have already been before the Academy. While its financial condition is now better than ever before, there still remains much to do. A few weeks since a Committee of Ways and Means were appointed, of which Dr. Gouverneur M. Smith is the chairman, to solicit contributions to pay off our only debt, a mortgage of five thousand dollars. They have worked with great zeal and enthusiasm, and the Fellows of the Academy have responded with self-sacrificing generosity; the necessary sum has not yet been wholly secured, but the prospect of soon accomplishing this is most encouraging. We particularly need money for preserving our library by book-binding. It will be remembered that last year a generous sum was given for this purpose by a lady who has in many instances shown that she is as warm a friend to the Academy as she is conspicuous for her readiness to aid every good work by munificent support. Many of our Fellows have also most liberally added to the beauty of the library in this way, and have rendered great service in the preservation of our books in good condition, which otherwise would speedily deteriorate.

I have long contemplated offering some suggestions on the present occasion as to the wisdom of a change in our By-Laws relative to the duties and functions of the sections. Only one of the sections, that of Obstetrics and Diseases of Women and Children, has kept up an active organization, done excellent work, and made regular reports to the Academy since my official connection with it. Two or three only of the other sections have reported their organization by the election of a chairman and secretary; and this has been all. Two have appointed a Fellow to read an original paper before the Academy, one of which, a most valuable paper, was read before us. The other I have never been able to get, and, as four years have now passed since that time, I do not think it very probable that it will ever come before the Academy.

The founders of the Academy did not contemplate making these sections independent societies for special work, but as contributing aids to the high aims of the central power. I had proposed to suggest such a modification of Article XVII, Section 2, as would assign to the sections functions similar to those of the Academy of Medicine of Paris. But we have not the time now to consider the details of such a change, and I leave the matter for future consideration by the Academy and my honored successor.

Neither did the founders of the Academy intend that it should absorb or concentrate in itself all the scientific work of the profession in this city. The whole spirit of its high aims and purposes indicates that, on the contrary, they desired to stimulate and encourage such work in every feasible direction. I hope the time is not far distant when the Academy will be so well endowed that it may offer to all such societies as the Medical Society of the County of New York, the Pathological Society, the Obstetrical Society, the Surgical Society, and the youngest of all, which has begun its career with excellent scientific work, the New York County Medical Association, a home for their meetings free from all expense.

Our standing committees have always faithfully discharged their important duties, with one exception, and that is the Committee on Medical Education, which has had little to do, and has just done this and nothing more. I may now be permitted to ask if the time has not come when it should be one of the most important and useful of all of our standing committees in carrying out one of the objects of the Academy as declared in our Constitution—"the elevation of the standard of medical education." How can this best be effected, is the question.

It seems to me that a way is now open for this committee to do effective work in this direction. For years the medical profession in all parts of the country have been agitating the question of separating the power of licensing to practice medicine from the teaching power. It is a subject of great importance to the profession, to our medical schools, and equally so to the community. It must be met and settled in a way that will be most effective for good, but this can not be done at once.

There are two ways by which this can be accomplished, but each would require time. One way involves the division of the profession into contending parties, each most zealous to carry its point, and would lead to heated controversies, which always provoke personal feeling and personal antagonism, an appeal for the action of societies, and a struggle for majority votes, not only in medical societies, but in securing legislative action—all of which would undoubtedly affect our medical colleges injuriously and lower the profession in the estimation of the public. Any good secured would be at a great and unnecessary cost. The public can not understand medical controversies except from what appears on the surface. A "doctors' quarrel" seems to the non-medical community like a fight between drunken men in the dark. The late Mr. Charles Dickens once related to me a story which he had heard of how Sidney Smith convulsed a dinner company at Holland House with laughter by his description of a duel between two doctors. The mode of warfare was with croton-oil on the tips of their fingers, trying to rub each other's lips.

Now, this question is one which belongs to the domain of reason, and let us hope, for the honor of the profession, that hereafter it will be confined to the region of argument, and that in due time it will be settled to the satisfaction of all who are actuated by pure motives and a desire to secure the best results. At the last meeting of the Academy some resolutions were offered, but, by the courteous consent of my friends, the mover and the seconder of the resolutions, they were laid on the table for future consideration; I therefore feel that I have now the floor, and venture to throw out a few suggestions as to the other method of meeting this question.

In order that the standpoint from which I look at this subject may be perfectly understood, I will briefly state a few propositions which seem to me common ground upon which we all stand and from which we must start.

Where charters for medical colleges can be easily obtained from State legislatures, it is a duty which the profession owes to the public as well as to itself to protect the community from ignorant, unprincipled practitioners of medicine, who not only swindle their victims, but jeopardize health and often sacrifice human life.

This is a matter of great difficulty where each State is an independent sovereignty as to all such laws, where there is no central power to control action, and where personal freedom of opinion and conduct is zealously guarded as to everything which does not interfere with the rights of others as regards health and property. The interests of the medical profession are so closely allied with those of the medical colleges that what affects the one detrimentally must reciprocally injure the other. The profession have a perfect right to supervise the methods of those who by law are permitted the privilege of giving a diploma, which is effectually a license to practice medicine, and exercise a controlling influence over them.

All wise legislation must be based on a thorough knowledge of all the conditions which demand special law; it can not be evolved from the inner consciousness of any one who has only the spirit, the zeal, and the genius of reform, but must be derived from the accumulated wisdom and experience of the past.

Mere examinations by a special board, who have had no previous training in this direction, no personal acquaintance with the mental characteristics, the habits of study, or the personal conduct of the candidate, would be as unsafe a test for admission to the profession as the present system. Injustice would be done to some, while flippant readiness in reply, which can be easily attained by a quick, bright mind in a few weeks of cramming, without either solid acquirement or sound judgment, would always secure success.

The experience of all countries has demonstrated the wisdom and necessity of examination by and the assent of the teaching faculties. But in all other countries except this there is an additional protection to the profession and the public by the concurrence of another power.

In the Edinburgh University and in some other medical institutions of Great Britain this is vested in a special Board of Examiners. In France it is under the direct control of the government. The Minister of Public Instruction has not only the power of granting or withholding the diploma, but, in addition, even in that so-called Republican government, he has the power of retiring any professor whose teaching is not abreast of the times. In Germany, also, while the methods vary in different universities and in different constituted parts of the Empire, it is yet under government control, which I believe is always exercised wisely.

Now, I offer the suggestion that a committee of judicious, wise, and unprejudiced medical men, which would represent the best interests of the profession, the medical colleges, and the public, could frame a law, with the aid of competent legal advisers, which would combine the two methods, in accordance with the spirit of our Republican institutions and the sentiments of our epoch, and thus save the profession from unfortunate and heated controversies, and from crude, hasty, and ever-changing legislation.

Would not the demands of the most progressive members of the profession be satisfied if the Regents of the University were empowered by law to appoint the Committee on Education of the Academy of Medicine a supervisory Board of Examiners for the medical colleges of this city, whose duty should be to make an annual report, not only as to the examinations for diplomas, but as to other details, as to the instruction and education of the student. This committee should be enlarged to the number of the principal departments of instruction, and should serve without pay—for there can be no doubt that the best men in the profession, who have the time, would esteem it a high honor to serve on such a committee. For the medical colleges in other parts of the State, there would be no difficulty in devising a method by which the Regents would appoint men for the board of supervisory examiners who would be most satisfactory to all.

None except those who are well acquainted with the facts can appreciate the immense advance which the medical colleges of this city have made within the past quarter of a century in teaching and in increased facilities for imparting a thorough education in all departments.

I have also great pleasure in referring to two other schools, the Polyclinic and the Post-Graduate Medical School and Hospital, which have been doing a great work for the more thorough medical education of those who have diplomas, and thus necessarily for the "elevation of the profession," within the past three years. I do not believe that one in fifty of the profession of this city has the least conception of what these schools are doing. If I expressed in moderate terms my estimation of the importance and value of their work to the profession of the country, I should be regarded by many as either carried away by my enthusiasm or prompted by personal considerations—so I will only say, go and see for yourselves. Medical men who visit this city, and who always keep up their professional interest, should not fail to visit and see what clinical teaching and clinical opportunities are found here, with all the equipments for their utilization, and they will be well repaid for the time given up for this purpose. This system of special clinical improvement originated in Germany, and nine or ten years ago I seized an opportunity to visit the most prominent of the Polikliniks in that country. Undoubtedly they have greatly advanced within this time; but I assert that then none that I visited were, either in clinical advantages or in clinical teaching, on a level with our own at the present time.

I take the liberty of suggesting that it would be a wise and politic move for the medical colleges of this city, the New York Polyclinic and the New York Post-Graduate Medical School and Hospital, to take the initiative, and invite the Committee on Medical Education of the Academy of Medicine to visit these institutions, study their methods and their equipments, and report the result of their observations to the Academy at its annual meeting in January, 1886.

It must be obvious to all that this great improvement in medical education, far beyond the elementary teaching of former times, implies not merely a corresponding elevation in the level of the average of the profession, but a still greater growth in the higher standards of medical science and literature. Thus the inquiries are naturally suggested, What is the future of this Academy, what is to be expected from it, and how is it to be placed on the high plane where it should stand in reference to the profession, not only of this city and of this country, but of the world? A wise forecast will early plan to secure a result which it desires to attain.

While our educational institutions are steadily improving their facilities for training the young men who are about to begin their career, and our polyclinics and post-graduate schools are more thoroughly preparing them for the higher grades of the profession, such an organization as our Academy of Medicine—in the great metropolis of the country—should be an ultimate center at which all those who have been long enough at work to find out their individual vocation should have every opportunity to carefully study all the literature of past ages, and make original investigations in every possible field of medical science which can add to its importance. All short of this will be just so far a failure of the true mission of the Academy.

Thus far, which is only a beginning, the Academy has done its duty in bringing together most of the best men of the profession and making them acquainted with the special ability of each, in collecting a most creditable library for consultation, research, and circulation, and in stimulating and bringing out good literary scientific work.

What the Academy requires in the future is:

1. A large fire-proof building, with ample room for a library containing all the medical literature of past and coming times, and including:

2. A large hall for its meetings, and others for smaller societies and for committees.

3. A large room for a museum illustrating physiological and pathological anthropology, which should include a craniological series, a pathological series, and a series of sections and dissections illustrating topographical human anatomy and a comparative anatomy series.

4. An anthropometric laboratory, provided with the best means of measuring human bodies, the faculties, and everything cognate to these subjects, which should include a set of psychometrical instruments and everything pertaining to the series.

5. A lecture-hall, connecting with the laboratory, and fully equipped with apparatus for lectures and demonstrations of all kinds.

6. It should also have a thoroughly educated and trained pathologist, who should, by means of an adequate salary paid by the Academy, be able to superintend all the scientific work, and report on the specimens furnished to him; also a capable mechanic, skilled in brass and glass work, and a good practical phonographer.

This is a broad scheme, which will require a very large endowment; but it is my firm conviction that it only outlines the future of the Academy, even if it demands a million of dollars. The liberality of New York is as boundless as its wealth, when the worthiness of an object is demonstrated. But large wealth is subjected to perpetual annoyance from solicitations, and to criticism from those who have some pet end to promote which they deem the most important above all others. This kind of discipline trains wealth to the exercise of discrimination and judgment, and, besides, it has its own convictions as to how its surplus can best be employed. The position of the possessors or representatives of great wealth in this country is peculiar and anomalous, and the thinking men of this class, and there are many, perfectly comprehend this.

There is no reason to suppose that there will be any exception in this country to the general experience of the world in the past, which is that those who have but little or no property will greatly outnumber those of large wealth. Here lies the peculiarity and anomaly of wealth with us. Heretofore property has protected itself through its representatives by monopolizing or controlling the law-making and the law-administering power; with us the condition of affairs, if not actually reversed, has certainly been brought within the possibility, if not the realization, of absolute reversal; inasmuch as, through universal suffrage, untrammeled by conditions of property, and absolutely (in theory at least) free elections, the control of all law-making bodies and the appointment of all law administrations have come to be possible with those "who have not" rather than with "those who have."

Property and its representatives, more especially the representatives of very large wealth, are therefore exposed to dangers in the future with us, through arbitrary or destructive legislation, which have not existed or do not now exist anywhere else. The possessors of great wealth, by virtue of their superior education and knowledge of the use of methods, may be able to guard themselves in the future as they have in the past, but this will turn on the question of whether the great majority of them have the clear perception of the future and the sagacity to avail themselves of the two strictly legitimate methods for protection open for adoption.

The first is to bring to the masses, in whom all political power rests, a full realization of the fact that nothing so undermines the property of a State, or so quickly impoverishes the people, through the arrest of industrial growth, as the impairment, or the menace of impairment, of the rights of property.

The second is the demonstration by the possessors of wealth, by liberal contributions to every object that can benefit humanity, relieve suffering, prolong and preserve human life, improve education, aid scientific investigation, and promote a higher development of art, that it is a greater boon to the masses than it is possible to secure by any other means, as the past history of the world illustrates.

We have abundant proof that this view has been adopted by many in this city. The foundation of the Astor Library and the Cooper Institute is a corroboration of this statement as regards the past. The splendid gift to the College of Physicians and Surgeons by Mr. W. H. Vanderbilt, the munificent endowment of the New York Cancer Hospital by Mr. John Jacob Astor, and the generous and liberal contribution of Mr. Andrew Carnegie for a pathological laboratory in the Bellevue Hospital Medical College, are recent evidences of the correctness of my assertion. Such noble examples are sure to be emulated by many others in the future.

The wonderful growth and development of this country are unparalleled by anything in the history of the past, and they are certain to go on in even more rapid strides for years to come. Its educational and scientific institutions will be placed on a corresponding plane, as compared with other parts of the world, with its industrial, its financial, and its political relations.

There is another point worthy of remark. Men of wealth, in common with other men of intelligence, like those devoted to literature or science, have a desire to be remembered after death. They have a dread of having their names and the record of their lives pass into utter forgetfulness or oblivion. To avoid this, the resting places of the dead are everywhere crowded with cenotaphs and memorials. This is strikingly manifested in some parts of the country by the most expensive monuments and mausoleums of modern times. They crowd each other in some of our cemeteries to such a degree that they lose all their individuality in their multiplicity, and the names which they are intended to keep alive are forgotten in the observations as to the comparative merits of the architect or stone-cutter who has erected them. The only question asked is, "How much did it cost?" and the only suggestion is that of vulgar wealth. "Yet all here," to quote from quaint old Sir Thomas Browne, "are but Babel vanities. Time sadly overcometh all things, while her sister Oblivion reclineth somniferous, making puzzles of Titanic erections and turning old glories into dreams."

The only lasting monument a man can build is the reputation he makes during life and the memory of the benefit which he has, in some form or other, conferred on those who live after him.

> "For the good dead, through the ages
> Lingering in historic pages,
> Ever gleam and grow immortal,
> Unconsumed by moth and rust."

From all these considerations, I feel justified in expressing the belief that the ideal of the future of the Academy which I have given will at no remote period prove to be history. I hope to live to see it well begun, and I have the strong conviction that some now present will see it in full accomplishment. Some man of wealth, fully comprehending the importance of this Academy, not merely to the profession, but still more to the public, will esteem it a privilege to have his name prefixed to our new hall, by virtue of furnishing the requisite sum to build it and perfectly equip and support it; others will contribute the necessary amounts to give their names to each of the special museums that I have mentioned; and others will place their names on an alcove in the library.

I here crave indulgence for one remark—the only one personal to myself: I trust this evening will end, on my part, all official connection with any medical societies. The remainder of my life, except the time necessary for bread-winning, will be devoted to putting on record the results of more than forty years of study, observation, and experience, with the hope that they may be of some value to the younger men of the profession, and to doing all in my power to urge forward that future of our Academy which I have anticipated.

I have but a few words to add before introducing my successor. Some years ago, when I was elected to a similar place of honor in another society, I remarked: "Scientific societies seem to be governed in their selection of office-bearers by one of two principles. One is to confer honor on those who, by their contributions to literature and science, have won a right to it. The other is to select such as will most efficiently perform the duties which pertain to the office." In the election of my successor, the Academy has most happily combined both of these principles. His literary and scientific work has won for him an enviable fame and high distinction, equally in this country and in Europe. His ability as a presiding and executive officer has already been successfully tested by his former service as president of the Medical Society of the County of New York, and of the Medical Society of the State of New York. Thus he begins his career with a prestige which is a promise of great success.

I now have the great pleasure of presenting to him the "loving-cup," on which his name has already been engraved, and which is to be transmitted to his successors in turn. It is ornamented with the symbol of friendship and love, and on it is expressed the sentiment, "May peace and love be multiplied unto us."

Some years ago the phrase was very current in the political world, "Let us have peace." It is as wise a sentiment for the medical as for the political world. I sincerely hope that my successor will never have to qualify this with the paradoxical appendix, "Let us have peace, even if we have to fight for it."

Original Communications.

ABSCESS OF THE LIVER.*

By E. G. JANEWAY, M.D.

The subject which I have chosen for presentation is perhaps old, and one of which the literature is well advanced, yet it has appeared to the writer that it might not be inopportune to reintroduce an old acquaintance. The reasons for the selection have been the comparatively large number of cases I have met with this year, and the impression, which is pretty general, that the disease is of very uncommon occurrence in our climate; and because of the consequent failure to be on the lookout for it, as well as because of the mistaken opinions concerning the nature of the symptoms which very good clinical observers at times fall into. Abscess of the liver is no homogeneous subject, but one requiring considerable subdivision for intelligent consideration. Suppuration in the liver may either occur in the form of single or multiple abscess, of suppurative pyle- (or portal) phlebitis, or of purulent catarrh of the bile ducts; and in close relationship with the liver we may meet with abscess of the gall-bladder, or between the liver and the diaphragm, properly called subdiaphragmatic, or, perhaps better, supra-hepatic abscess.

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* Read before the New York State Medical Association, November 20, 1884.

The writer's intention is to limit his remarks to the proper abscesses of the liver. These, as has been observed, are single or multiple, and the former of these may have no apparent cause, being, as it is termed, idiopathic, while the others are dependent upon infection through the portal system, or are a part of a pyæmia, from systemic infection, in contradistinction to portal. I believe, however, that some simple abscesses of the liver are due to infection through the portal system, several smaller abscesses uniting to form larger ones. During the present year the writer has met with seven cases of abscess of the liver—two of abscess between the diaphragm and the liver, and one of abscess of the gall-bladder. Of the seven cases of liver abscess, four of the patients are living, three having recovered as the result of operative procedure, and one, with spontaneous perforation, is on the path to recovery. Three have terminated fatally—one as the result of exhaustion from the original disease, the abscess of the liver which perforated the lower lobe of the right lung, and was discharged per bronchia; one as the result of perforation of the pleura and the exhaustion accompanying this; the third from the severity of the liver affection. Let me invite your attention to some of the details in these seven cases:

Case I.—Dr. B. D. This gentleman was of active habits, without decided tendency to disease. Some years before his illness he was supposed to have had phthisical trouble in his right lung. The commencement of his illness was in September, 1883. The symptoms were those of malarial trouble, and during the course of his sickness he had jaundice of moderate grade. From this he recovered sufficiently to go on a shooting trip in Arkansas; but while there, during December, he was thrown from his horse, striking on his right side over the region of the liver. After this he became worse, had severe pain develop in the hepatic region, which, later, was also severe in the right shoulder. The temperature became hectic in character, and he lost flesh and strength. When seen in February, 1884, he was found to have intense pain in the cervical plexus of the right side, a markedly enlarged liver, a large spleen, with evidence of dry pleurisy on the right side, with feeble respiration and slight crumpling sounds at right apex. He had also perspirations at night. The enlarged liver was tender on pressure, but no hepatic friction could be developed. His skin was dark, but not decidedly jaundiced. The temperature was elevated at night, but normal, or nearly so, in the morning. He was unable to move much on account of pain and shortness of breath, which were developed on exertion.

The questions which arose in the diagnosis of his case were:

1. To what shall these symptoms be attributed? Are they due to the combination of several morbid processes, or is only one at work?
2. Is it simple malaria?
3. Is it tuberculosis plus malaria?
4. Is it abscess of the liver? If so, did the fall in December originate it, or should it date back to the time of the malarial attack in the early autumn?

My own impression was, and I so stated to the physicians accompanying him, Dr. Johnson and Dr. Scott, that he had hepatitis, with developing abscess of the liver; that the signs at the apex of the right lung were the residue of the old process which he had had some years before; that it was impossible to decide whether the disease dated back to the fall and striking on his side, or should be referred to the time when he first became ill; but that the fall upon a liver enlarged by a previous malarial trouble would be more apt to produce disease, and would better satisfy the conditions and history. It was admitted that an absolutely positive opinion could not be given without exploration. He was seen at the same time by two other physicians. He went to Nassau, but in opposition to the opinion I had expressed when consulting about his case, for a tropical climate did not seem adapted for a case of possible abscess of the liver.

My reasons for the diagnosis were that, so far as his lungs were concerned, they showed no such active process as would account for the symptoms present. In fact, what previous trouble he had had would satisfy the physical signs, except the dry pleurisy present below. That while this might, perhaps, be due to tuberculosis starting from some infecting point, yet, in view of the condition of his liver and spleen and the history of the case, it would do more violence to the facts to suppose this than to think it either an intercurrence, or possibly due to an irritation propagated from below.

While in Nassau he had for a time a severe fever, with pain in his side, and was for the most part confined to the house. He reached home in May, and for a time seemed improved; but at the end of the month he was seized with dyspnœa and collapse, from which he had rallied when I visited him on the 3d of June, thanks to the careful skill of his physicians. They had found his right pleura filled, and, in connection with the past history, supposed it due to the bursting of an abscess of the liver through the pleura.

He was considerably emaciated from the time I had previously seen him, having, owing to the loss of the use of the right lung, marked dyspnœa. By aspiration, three and a half pints of a fluid, resembling tomato-catsup in color, were drawn off. This, examined microscopically, was found to contain red-blood globules, fatty pus-cells, and granular matter, but no well-formed or recent pus-cells. Moreover, these cells were not close together in the fluid. The fluid coagulated by addition of acetic acid. Under these circumstances, and in view of the difficulty of dealing with the abscess of the liver in case of free incision, it was decided to aspirate two or three times more, and, if offensive odor should come to the fluid, or severe hectic develop, or marked suppuration, then free incision into the chest, with efficient counter-opening to secure good drainage, should be made, and the chest washed out. The following letter I received from Dr. M. L. Scott, his attending physician. The following letter will give the subsequent history:

"Our friend, Dr. D., died at 10 a. m. on the 3d of July. You left him on the 4th of June. On the 9th, I withdrew 2½ pints of fluid; on the 13th, 3 pints; on the 17th, 3¾ pints; and on the 24th, 4 pints 2 ounces. At all these aspirations we got fluid of appearance similar to that you saw. Only at the last aspiration was the fluid offensive. On June 27th we did through drainage, and thoroughly washed out, not only then, but until the end, with thorough antiseptic precautions. His course, especially after the drainage, was downward. He rapidly passed into an asthenic state, the pulse rising and the temperature falling. At the last, morphia was necessary to quiet his restlessness. A persistent dysentery developed four days before drainage was performed, and, resisting all treatment, continued until the end.

"I made the autopsy six hours after death. Emaciation and jaundice were everywhere extreme. The heart was found somewhat displaced to the left. The left lung and pleura were perfectly normal, with the exception of a few filiform adhesions at the base. The right lung was completely collapsed, and firmly adherent to the pleura at apex, and anteriorly at the junction of the second and third rib with the sternum. Both surfaces of the right pleura were much thickened. The drainage-tube traversed the cavity for four inches, and was in the best possible position for drainage. Through the diaphragm we found an irregular opening, two inches in diameter, leading downward into an hepatic abscess. The abscess held twenty-four ounces. Its walls were eroded, and surrounded by a dense cicatricial tissue half an inch thick. The abscess had burst through the highest portion of the diaphragmatic arch. It was nearest the peritonæum at its lower and anterior portion. Here it was one inch and a half from the free surface. The liver weighed seven pounds and a half. The left lobe was as large as the right. On the anterior surface we found an irregular, retracted cicatrix marking the site of a former perihepatitis. On the concave surface of the left lobe we found an abscess, as large as a hen's egg, about to burst into the peritonæum. In various situations through the hepatic structure we found half a dozen small purulent accumulations of a pyæmic nature. The kidneys were three times their natural size, and had undergone a waxy degeneration. The spleen was enlarged, and, together with the liver, had undergone a waxy degeneration. No tubercular or malignant change was found at any point. The rectum was inflamed and superficially ulcerated. The mesenteric glands were normal.

"Yours, very respectfully,

"M. L. Scott.

"Lexington, Ky."

In this case it seems certain that the small abscesses were secondary and of a pyæmic nature, as Dr. Scott has written in his description of the case.

Case II.—This was in a child, three years and a half old, brought to me by Dr. Taylor, of the Hospital for the Ruptured and Crippled, in May last. This child lived on Long Island, and had been gradually growing weaker, without, as the mother said, having had fever or anything beyond a swelling in the abdomen. A careful cross-examination, after a decision as to the nature of the trouble had been reached, failed to establish any cause for the liver abscess from which this child suffered. The mother denied any fall, hurt, diarrhœa, dysentery, etc., preceding or following the appearance of the swelling, which, according to her account, had been progressing for nine or ten months. An examination showed a tense, elastic tumor in the epigastric region, and, from its situation, probably occupied the left lobe of the liver. The child cried so on going near, or touching it, that it was necessary to put the child under ether for examination and exploratory aspiration. Not having time that day, it was postponed, owing to absence from the city, until June. In the mean time, Dr. W. T. Bull had also seen the child, and, at his request, it went to the New York Hospital, where I saw it with him at the time of operation. There an exploratory aspiration revealed pus. This was followed by a free incision, the laying in of a drainage-tube, and washing out with bichloride solution, 1 to 5,000. The left lobe of the liver was found adherent to the anterior abdominal wall, and nearly a quart of pus was evacuated.

Dr. Bull informed me that the child subsequently made a good recovery.

In this case, from the history the mother gave, from the age of the child, and the presence of a slowly growing tumor, markedly elastic to the feel, I had supposed it more likely to be an hydatid sac, though, as you all probably know, these are extremely infrequent in this country, and occur, if not exclusively, almost so, in those who have at some time lived abroad or are immigrants. I had, however, qualified this possibility by insisting on the necessity of an exploratory aspiration for diagnosis. Such a case is a very good illustration of an idiopathic abscess of the liver. Because the mother denied a fall or injury, it is not impossible that the child may have had one.

Case III.—This case occurred in Bellevue Hospital last August, while I was visiting for Dr. Smith during that month. J. G., aged thirty-two; born in United States; admitted to hospital August 7, 1884. The patient said that, with the exception of an attack of Bright's disease, nine years previously, he had been well up to the time of his present illness, three weeks before admission. Then he was taken with severe pain in his left side, which pain was intensified by any motion of his body. His bowels had been regular, his appetite good, but, notwithstanding, he had gradually been losing in flesh and strength. He denied having had any chilly sensations or feeling of fever at any time.

On admission, the patient was found weak and anæmic, complaining only of pain over his left side. An examination showed the presence of a tumor in the median line occupying the epigastric region. This tumor did not move with respiration; it was elastic to the touch, and, from its position, was situated in the left lobe of the liver, which, from its not moving with respiration, was probably adherent to the anterior abdominal wall. Moreover, there were no friction sounds over it. The probable diagnosis was abscess of the left lobe of the liver.

The patient had, in addition, a faint presystolic mitral murmur, with slight enlargement of the heart. The urine contained a small amount of albumin, but otherwise was normal.

On the next day a free incision was made into the abscess under ether, and a large quantity of pus evacuated. The abscess cavity was washed out with bichloride solution, 1 to 5,000, a drainage-tube was introduced, and the wound dressed antiseptically. An exploration at the time of the operation showed the abscess to be in the left lobe of the liver. After this the cavity was washed out with a bichloride solution, 1 to 2,000. It discharged very little, and was neither tender nor painful. On the 25th of August the cavity was closed by healthy granulations, the patient having in the mean time gained in flesh and strength. He was discharged October 3d, having made a good recovery.

Case IV.—This patient occupied a bed in the same ward with Case III. He had been admitted and operated on while Dr. Smith was attending to his service, but passed under my supervision and observation during August. C. B., aged thirty-five, porter, admitted to Bellevue Hospital July 23, 1884. With the exception of a stricture, he had been well until two months before admission, when he had intermittent fever for nine days. After this he was well until five weeks before admission, when he had severe pain in his left side, which had continued constant.

Nine days before admission he noticed a small lump just over the ensiform cartilage, which had gradually increased in size, was tender on pressure, but not otherwise painful. This, after a few days' stay in the hospital, was incised, washed with a carbolic-acid solution, dressed antiseptically, and allowed to discharge through a drainage-tube. Suffice it to say that he made a good recovery. This case more properly belongs to Dr. Smith, so that I am content to give it this brief mention.

Case V.—Mr. O., a resident of Brooklyn, called at my office with his physician, Dr. Peer, Monday, October 27, 1884. He was forty-three years of age, and had been well, with the following exception: He was a man of good habits. At this time he denied any injury or strain at the time of the inception of his trouble. But later, on inquiry from his wife, the following history was obtained. In December, 1881, having a gun in his left hand, he ran to catch a car, and seized it in expectation of having it stop, but instead he received a severe wrench in his right shoulder, and was dragged, without losing his feet, for some distance. He was laid up by the sprain of his shoulder, and, while under treatment for this, began to have pain in his right side over the region of the liver, which was accompanied by its marked enlargement. At this time he lost flesh and strength, and had some fever. He took a trip to Cuba, and returned without improvement, but shortly afterward suddenly began to improve after taking taraxacum, and apparently recovered completely. During this time he had lost thirty pounds in weight. About a year and a half later he had an attack of pain over, and some swelling of, the liver, lasting for three weeks, and again improved. The attack for which I saw him began in August, and came on after running to the cars while in the country for the summer. He was driving, and the axle breaking threw the other occupants out, but he remained seated, and says that he neither experienced a jar from this, nor any special exertion from his run to the train afterward.

He was soon affected with the enlargement of the liver, pain in his right side, a slight evening rise of temperature, and a gradual failure of flesh and strength. His weight had decreased twenty-five pounds at the time of his visit to me.

For a short time before this he had had intense pain over the liver and in his right shoulder. At the time of his visit the most notable symptoms were the hepatic tenderness and enlargement. The enlargement was such that the line of hepatic flatness was increased in an upward direction for one inch and a half, and downward for two inches. The diagnosis arrived at was abscess of the right lobe of the liver in the convexity of the diaphragm, which, in view of the severe pain, was producing perihepatitis. No fluctuation could be obtained, nor any evidence by which the abscess could be located absolutely. A blister was advised over the right side, a careful record of temperature, and the use of Warburg's tincture for the fever.

The pain disappeared very soon after the application of the blister. The evening temperature rose as high as 102°. After three days a cough occurred, accompanied with slight expectoration, and followed on the sixth day by a severe cough and an expectoration which amounted to a chamberful in twenty-four hours.

The expectoration was of a brownish color, thick, and somewhat tenacious. Under the microscope it showed fatty pus-cells, granular matter, and blood globules, but no distinct evidence of bile pigment. A physical examination, made on the 3d of November at his house, showed marked dullness over the greater part of the lower lobe of the right lung, feeble respiratory murmur over this area, attended by numerous coarse, moist râles, but a normal respiratory murmur and an absence of râles over the rest of the right and over the left lung. Moreover, his respiration was not markedly hurried, and the area of hepatic flatness had considerably decreased from the time of my former examination. In view of the amount discharged, of the little effect upon the lungs, of the improvement in his general condition, and the diminished size of the liver, it was decided that it would be wiser to wait a few days than to explore the liver with a view of removing the pus by aspiration. On Tuesday, November 4th, two days after the marked discharge from his lungs, he had colicky pains in abdomen, followed by several movements and the discharge of pus, and blood in clots. On the next day his bowels were quiet, but on the 6th he again had smaller passages, accompanied by some blood. A re-examination on this day showed that the respiratory murmur had returned over the right lower lobe, that the râles had disappeared, and that, beyond a less degree of resonance over this portion, there was nothing to tell that the abscess had discharged in this way. The area of hepatic flatness had still further decreased, the temperature was normal, and the patient felt himself markedly improved. The treatment adopted was symptomatic and supporting from the time of his first visit. I have heard that he is progressing favorably, though I have not seen him since. His case illustrates the advantage of a counter-opening. A careful review of his case makes it seem probable to me that he had an abscess of the liver during the time of his first illness two years and eight months before the discharge spoken of above; that this became latent, and that in his efforts, though unknown to himself, when the axle broke, or during the subsequent running, he received sufficient injury to relight the old trouble possibly around the wall of an old abscess.

Since writing the above a second discharge has occurred through the lung, and at this time the discharge by the bowels ceased. His general health has improved.

Case VI.—W. R., male, aged twenty-two years, was admitted to Mount Sinai Hospital, March 8, 1884.

His past history was of no importance, and there was nothing marked about his family history. His illness began, three months before admission to hospital, with chills, repeated every afternoon, lasting a quarter of an hour, not followed by perceptible fever, but by sweating during the night. These continued until three weeks before admission, since which time the chills had ceased, but the sweating at night had continued.

He had had severe pain in the left hypochondriac region and across the back, which came and went. He had lost flesh, strength, and color. Two weeks before coming he had lost some blood with the stool. He had been up and around until two weeks before admission, and his bowels had been regular until three days before, since which time he stated that he had had three or four thin stools daily. On admission, he was emaciated, pale, of a sallow complexion, having loose movements from the bowels, and complained of pain in the back and in the left hypochondriac region. His pulse was feeble and frequent. After a short residence in hospital, he was found to have a psoas abscess on the left side, and at different times friction sounds were heard over the lower part of each lung. The peculiar points in his history were that three weeks after admission he suddenly spat up a teacupful of pus; on the next day the psoas abscess was found decreased, and very evident fluctuation, and the evidence of gas could be made out where previously only pus had been found. His liver had been, and was, enlarged, and his breath was of that sweetish odor indicative of suppuration. His pulse was frequent from the first, and his temperature ranged from 98° to 99° a. m., and from 99° to 103° p. m., until four days preceding death, after which it did not reach 100°. He died comparatively suddenly, while straining at stool. He persistently refused any exploration or operation.

The autopsy revealed an abscess situated in the convexity of the right lobe of the liver, which had perforated the diaphragm and opened into a bronchus in the right lower lobe, thus explaining the sudden expectoration of pus. In his liver, besides this larger abscess, were several necrotic areas. The psoas abscess communicated with the descending colon, which was the seat of follicular dysentery. He had, in addition, a single kidney, situated on the right side.

From the order of events in this case it is certain that the psoas abscess was primary, next followed the dysentery, and, accompanying it, the abscess of the liver. During life these sequences were not so easily made out, for, when the diagnosis of psoas abscess had been made, the accompanying diarrhœa seemed possibly the result of tubercular rather than simple follicular ulceration; moreover, the friction sounds over each lower lobe seemed to point toward a possible generalization of the supposed tuberculosis, whereas the subsequent evidence showed it to be due on the left side to a propagation of the inflammation, while on the right it was due to the hepatic abscess. Again, when, following a discharge of pus from the lung, air was found in the abscess sac, it seemed probable that the abscess had discharged *per bronchia*, especially as I made careful inquiry whether there had been any blood or matter in the stool which would indicate a perforation of the bowels, and, receiving a negative answer, felt justified in considering the pus voided by the lungs as coming from the psoas abscess. The cause which led to the mistake about the evacuation was that the pus was colored a slaty hue by the bismuth which he received.

CASE VII.—Thomas Coogan, aged forty years, a longshoreman by occupation. No good history could be obtained from this patient, he having been sent to the hospital as a case of alcoholism. From his account, which was probably incorrect, he had only been sick five days. His symptoms consisted of delirium, fever, a large, tense abdomen, owing in great measure to a marked increase in the size of the liver. To this dyspnœa was added marked and rapid prostration of the vital forces. His bowels were constipated, and required a laxative. On inspection of this patient, I reached the conclusion that he had inflammation of the liver which had formed, or was forming, an abscess. There was no clew to the exciting cause. A single exploration was made with a negative result.

The autopsy showed multiple abscesses of the liver, varying in size from that of a marble to a small apple. The amount of liver tissue involved in the abscesses seemed greater than that unaffected. In several places these abscesses had excited a perihepatitis. The only other organ involved was the cæcum. In this there was at its dependent portion an ulcer, which had destroyed the mucous membrane for a space an inch and a half in length by half an inch in width, and also a follicular ulcer about the size of a large pea.

The reason for which I have introduced this case is that it shows how severe an affection can start from a limited infecting surface. The ulcer was undoubtedly of older date than the hepatic trouble. It seems not improbable—in view of the fact that, as well as other writers, I have met with a number of cases of solitary abscess following dysentery—that some of the so-called idiopathic abscesses are in reality dependent upon an infecting surface in the course of the stomach and bowels.

The symptoms of abscess of the liver are not uniform, because in some cases we have the action of the cause still persisting and adding its phenomena to the effect produced by the suppuration of the liver; and also in consequence of the situation and size of the abscess as well as the peculiarities of the patient. The main phenomena, however, are few, consisting of a more or less marked enlargement of the liver as a whole, or of that lobe which is the site of the disease; of a hectic type of temperature, whose limits are in many cases not great, and in some cases, with no thermometric record, it may be denied that fever has occurred; of pain and tenderness over the liver, especially if perihepatitis coexists; with in not a few cases a reflected pain in the right shoulder in those cases affecting the right lobe; and of progressive loss of flesh and strength. Jaundice is much more conspicuous by its absence than by its presence. The same may be said, so far as my experience goes, of melancholia. Of late years, owing to the extravagant statements of some writers, I have paid particular attention to this point, and have been strongly impressed by the absence of marked depression of spirits in these cases. One of my patients, in reply to the question why he was not melancholy, replied: "What is the use? I may as well put up with what is the matter with me." So that I am convinced that the connection which has been supposed to exist between these conditions is a fancied rather than a real fact. Moreover, autopsies in persons who have died with melancholia do not establish the correlative proof.

Hepatic enlargement, associated with tenderness or not, and fever of a hectic type, with some loss of flesh and strength, are in many cases the only symptoms of the disease. When the abscess discharges, or is in the way of discharging, we meet with additional symptoms, varied according to the avenues traversed. The channels thus sought in my experience have been, the pleura, bronchial tubes, pericardium, peritonæum, and intestine. Cases are on record of other methods of exit. Of these you will find mention in literature. I might add that I have never met with an abscess of the liver which discharged externally spontaneously; all such as were on the way to do so were opened.

In order to bring this paper within the limits of the time allotted at such a meeting as this, I desire to draw attention briefly to certain points in connection with the subject.

1. Abscesses of the liver can practically be divided into those affecting the left lobe, or the lower part of the right lobe, so that the abscess when formed produces an elastic or fluctuating tumor below the free borders of the ribs; and of those situated in the upper or posterior portion of the right lobe. The reason for this division is that abscesses in the two former situations are easy of access, of diagnosis, and of operative interference. The abscess in the last-mentioned situation is the one which more often gives rise to difficulty in diagnosis, or, if diagnosticated, to doubt as to the best and safest methods of interference.

2. There are several methods by which the existence or non existence of adhesions between the liver and abdominal wall can be made out. The presence of hepatic friction, audible or tactile, shows the absence of adhesions, but the probability that they will soon be formed. If, on palpation, the edge of the liver remains fixed, and does not descend with respiration, adhesions have in all probability taken

place. Again, a long needle—that of a hypodermic syringe or aspirator—introduced into the liver, will, if the outer end is left projecting some distance, move upward as the liver descends, and downward as the liver ascends, if no adhesions exist. But, if these have formed, then the needle does not move.

3. The difficulties which arise in the diagnosis of liver abscess may in many cases be surmounted by a careful survey of the history, of the condition of the liver, and by exclusion of the existence of sufficient disease in other organs to account for the symptoms.

The mistakes which I have seen made have been:

a. To consider a liver abscess some other disease, as malarial fever (remittent and intermittent), typhoid fever, or tuberculosis.

b. To consider an abscess of the liver some other disease of the liver, as hydatids, cancer, congestion, fatty liver, hyperplasia.

c. To consider the swollen liver an aneurysm of the aorta, especially in case of abscess of the left lobe of the liver, where pulsation was communicated to it by the aorta.

d. To consider an abscess of the gall-bladder an abscess of the liver, and *vice versa.*

e. To consider a supra-hepatic abscess an abscess of the liver.

f. To consider an abscess of the liver one of the abdominal wall, and *vice versa.*

Some years since the writer had supposed that a distinction could be made between liver abscess and cancer of the liver by careful attention to the patient's temperature; but subsequent investigation has shown that, in cases of rapidly growing or disseminating cancers, a hectic type of temperature may exist.

4. As regards the ætiology of liver abscess, I believe that many of the apparently idiopathic are of traumatic origin. I have in several instances ascertained its occurrence in persons who were in the habit lifting heavy weights, particularly those who did so in hot places, as firemen, those unloading vessels, etc., by placing the right elbow firmly against the side, and then having the weight raised in this way. By this statement I do not mean to deny the probable influence of bacteria in the origination of abscesses, but to attribute to traumatism the establishment of that favorable condition which will allow of abscess formation.

In concluding, I might add to this paper, which is intended to present the subject in a practical manner and as it has occurred to the writer, a few remarks on treatment. I believe that all accessible abscesses associated with an adherent liver are best dealt with by free incision, washing out with an antiseptic fluid, the introduction of a drainage-tube, and by antiseptic dressing.

The writer had occasion, in one case of non-adherent liver with abscess, to employ the following means of promoting adhesions: The abscess was situated in the lower portion of the right lobe, so as to be reached below the free border of the ribs. An abdominal bandage was wound moderately tight around the body, and then the abscess was emptied by aspiration through a cannula, a trocar being used instead of the needle. After emptying the abscess, the cannula was allowed to remain, care being taken to prevent access of air by a valve of adhesive plaster. In a few days the cannula was removed and reintroduced an inch and a half from the point of previous puncture, and again, as before, allowed to remain. After this, hepatic friction, which had previously been audible, disappeared, and the motion of the liver with respiration ceased, proving adhesion. Then a free incision was made between the two places through which the trocar had been introduced.

The use of the abdominal bandage is sufficiently manifest as a means of preventing motion of the liver, and of holding it fixed, and needs no special comment. Under such treatment a patient should be kept absolutely quiet in bed. The proper treatment of the large abscess in the posterior part of the right lobe is a matter of considerable doubt. In many cases aspiration is the only resource. Should the abscess, however, be near the surface, and this can be ascertained by the depth to which the needle attached to an aspirator has to be introduced before pus is reached, the writer believes that, if the abscess had been aspirated and the sac refilled, then it would be wiser to make a free incision, even should it be necessary to exsect a portion of a rib in order to accomplish the drainage of the sac. A careful consideration of each case would be necessary, as without proper precautions the pleural sac would be opened.

The medical treatment must be symptomatic. The writer believes that rest, a cool climate, and maintenance of the nutrition and strength of the patient, are the main points to be secured. The important point is to secure an early and safe exit for the pus.

The writer has met with two additional cases of liver abscess since writing the above. One of these affected a laborer, who was in the habit of lifting heavy weights, which he carried on his left shoulder, supporting them by his right hand carried over his head. The abscess was situated in the right lobe, upper and right portion. The liver did not descend below the free border of the ribs, and was adherent. The symptoms were pain in the right shoulder and in the right side, loss of flesh and strength, with some febrile movement, and nocturnal perspiration. The case was referred to me by Dr. Fruitnight, of this city. Twenty-two ounces of a chocolate-colored fluid were removed by aspiration by Dr. Fruitnight, on November 29, 1884, by puncture in the ninth intercostal space in the inferior axillary region. I had recommended this space because it was the most tender on pressure, and, on exploratory puncture, there was revealed pus between two and three inches from the surface. The result is still uncertain.

ON SURGICAL TUBERCULOSIS.

By R. J. HALL, M.D.

(*Continued from page 88.*)

II. Tubercular Lymphomata.—1. Anæmic, but otherwise robust young man. Lungs apparently sound. Cervical and axillary lymphomata of two years' duration. Partial extirpation February 19, 1884.

Microscopic examination shows large-celled infiltration, abundant miliary tubercles containing giant-cells, and advanced caseous degeneration in parts.

Four specimens, violet and brown. Three negative; one shows a considerable number of bacilli on borders of a caseous mass.

2. Man, aged twenty-one. Cervical lymphomata of six years' duration. Extirpation April 15, 1884.

Microscopic examination shows large caseous masses in all the glands, and immense numbers of miliary tubercles, containing, generally, one to three giant-cells.

Three specimens, violet and brown. One negative; in one, three bacilli in one giant-cell. In another section, one bacillus in a giant-cell, and one among epithelioid cells.

3. Young man. Cervical lymphomata. Extirpation June 18, 1884.

Microscopic examination shows glands to be almost entirely caseous; only at the borders of the glands are a number of typical tubercles, almost all caseous in the center, and most containing a giant-cell.

Three preparations, violet and brown. One negative; in one, six bacilli together, among epithelioid cells; in another, two giant-cells contain each a bacillus.

In a fourth case, where cervical lymphomata presented the typical tubercular structure, no bacilli were found in the three sections examined; but, as they were found in sections of a tubercular cervical ulcer, excised from the same patient, the search was not continued.

Mögling, in his discussion of chronic lymphomata, quotes Ziegler's classification as follows:

1. The small-celled hyperplasia, undergoing caseation or suppuration.
2. The large-celled, indurated hyperplasia.
3. The reticular hyperplasia.
4. Tuberculosis, and the more complicated and less satisfactory arrangement of Orth. He shows that Group 2 in the foregoing is undoubtedly to be considered as tubercular, both from the anatomical structure and the fact that Dr. Nauwerck and Mögling himself have demonstrated the bacilli in glands of this structure; but leaves it doubtful whether those in the first group, which undergo cheesy degeneration, do not belong to the same category. The four cases given above all presented the classical tubercular structure described by Schüppel, namely, groups of epithelioid cells inclosing more or less numerous giant-cells. To these may be added a fifth, not of a surgical character.

5. Mesenteric lymphatic gland from child dead of tuberculosis of the lungs, liver, and mesentery. Mesentery studded with miliary tubercles.

Microscopic examination: Almost the whole gland caseous; at the borders a few tubercles, most of which are fibroid. Here and there groups of lymphoid cells, not yet cheesy.

Three specimens. Two negative; in one, four bacilli lying among lymphoid cells.

These cases, therefore, only furnish additional evidence, if such were needed, that all lymphomata possessing this characteristic structure are due to the invasion of the tubercle bacillus. The further question raised by Mögling, whether any other than these are due to the same cause, has been practically settled by Koch * himself, who, after demonstrating the bacilli, in all cases, twenty-one in number, having the tubercular structure, failed to find them in any of a number which were enlarged, in some cases softened, and containing small collections of pus, but which did not show the collections of epithelioid and giant-cells. Here, then, as elsewhere, we may rely confidently on the histological structure for a diagnosis:

III. Tuberculosis of the Skin.—1. Tubercular ulcer of the thorax. Man, aged about twenty-five, with remarkably long, flat thorax; superficial ulcer, about two inches and a half in diameter, over the upper portion of the sternum, with eroded, undermined edges, constantly spreading by erosion of the margins; surface covered with small granulations, which have a great tendency to break down. Patient has acute phthisis, the whole of the right and a great portion of the left lung being involved. No appetite, hectic and constant cough, with very abundant purulent expectoration. States that these symptoms have only existed a few weeks, and appeared after the ulcer.

Examination of sputum, fuchsine. A small number of bacilli.

Examination of material obtained by scraping.

Eight preparations, fuchsine. Six negative. Four bacilli in one, and one in another.

2. Tubercular ulcer of neck.

Young man with tubercular cervical lymphomata (see Cervical Lymphomata, Case 4) and ulcer of the neck, which was excised.

Microscopic examination of sections, made through the base of the ulcer, shows typical tubercles containing giant-cells.

Twelve specimens, fuchsine. Eight negative. Two contain each a small number of bacilli, and two very few.

3. Caspar Doerr, aged fifty-two. February 14, 1884. Family history and general health good. One year and eight months ago small papules appeared on dorsum of left wrist; these coalesced, forming a patch, which spread at the margins, not itching. Just before admission, acute lymphangitis, extending from the wrist to the axilla, where lymphatics are enlarged and painful. Examination: There is a papillary growth on the dorsum of the wrist, but slightly elevated above the surface, squamous at the edges, of irregular oval shape, about four inches long, and extending slightly on the dorsum of the hand. Tissues boggy, and pus can be squeezed out between and from beneath the hypertrophied papillæ; there are irregular isolated papules around the margins, showing the orifices of a few sebaceous follicles, from which pus and cheesy material can be squeezed. Ether. Thoroughly scraped with a sharp spoon, which readily penetrated to the fascia, through tissue resembling soft granulation tissue commencing to break down. Lymphadenitis subsided promptly and surface cicatrized.

September 12th.—Seen a few days ago, when cicatrix was firm and healthy. There are a few papules, resembling lupus nodules, around the margin.

Microscopic examination shows hypertrophy of the papillæ, with rapid proliferation of the epithelium, forming numerous nests. Papillæ infiltrated with small round cells, and in parts transformed into granulation tissue; no tubercular tissue seen.

Seven sections examined, fuchsine. All negative.

4. Woman, aged fifty-eight. March 18, 1884. About one year ago noticed a small "pimple" on the back of the left hand. This gradually enlarged, and about two months ago began to discharge a sero-purulent fluid. Examination: There is a patch the exact counterpart of that in the last case, except that the lymphangitis is absent; it is elliptical, two by two and a half inches in diameter, situated on the outer part of the dorsum of the left hand just above the fourth and fifth fingers. Ether. Surface scraped with sharp spoon, presenting precisely the same characteristics as Case 3. Cicatrized rapidly.

Microscopic appearances precisely similar to Case 3, except that epithelial pearls are much less abundant. Five preparations. All negative.

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* "Mittheil. aus dem kaiserlich. Gesund.," B. II, S. 36.

I have thought these two cases of sufficient importance to be given in detail, although no bacilli were found in them, because, occurring in advanced adult life, they presented very exactly the features of lupus varicosus or papillaris, combined with those of the scrophuloderma of Neisser, or tubercular gumma of Deprès.

Unfortunately, trusting to the microscopic examination, no inoculations were made, and, having only scrapings to deal with, it was almost impossible to find fragments from which sections could be cut, and those obtained showed only hypertrophied papillæ and proliferating epithelium, in which I could not expect to find bacilli. The clinical diagnosis, however, acquired greater certainty from a third case, presenting many points of great similarity, as follows:

5. James McMullen, aged fifty-three. May 17, 1884. Family history good; general health good until about six years ago, when left forearm was amputated for chronic suppurative disease of the wrist joint, occurring without known cause. Two years ago a small red "pimple" appeared on dorsum of right hand, itched much, and spread in all directions. At first dry and scaly; surface became moist. Healed in the center and spread at the edges. With various salves, portions of the edges healed, leaving patches on the dorsum of the metacarpo-phalangeal articulations and radial margin of wrist, as at present. Ceased to itch after a time. Three months ago the whole ulnar half of the dorsum of the wrist, hand, and lower two inches of forearm became red, swollen, and painful; and, two months ago, a number of openings formed spontaneously and discharged pus. Have remained open since.

Examination: There are horny, papillomatous patches on dorsum of metacarpo-phalangeal articulation of thumb, index, fourth, and fifth fingers. Surface is dry, horny; margins, dull red; patches slightly elevated. Blunt end of probe readily penetrates the tissues. Over the first carpo-metacarpal articulation is a red, slightly elevated, elliptical patch, 1 × 1½ inch in diameter, dry and slightly scaly on the surface, exactly resembling lupus exfoliativus. This has shifted from the dorsum of the hand, leaving the skin behind it white and atrophied. Whole unaffected portion of dorsum of hand, where the disease has been, is thin and atrophied. The portion of the wrist and hand described above as the seat of inflammation during the last three months is red, boggy, and slightly swollen. On ulnar margin of wrist are two small openings, through which a probe can be passed in all directions under the skin, and sero-purulent fluid escapes. All the skin involved, though dry and covered by cuticle, can readily be penetrated by the probe. Scraped thoroughly with sharp spoon, and operation repeated shortly afterward. Condition much improved, although several sinuses remain open, and there is still a good deal of infiltration of the tissues.

Inoculation, on July 2d, of guinea-pig, subcutaneously, in abdomen, with material obtained by scraping. Koch's syringe used, and careful antisepsis. Two days later, control inoculation of another guinea-pig in same manner, with indifferent material.

September 1st.—Guinea-pig killed. Inguinal glands and one lying on common iliac artery, on inoculated side, enlarged to size of beans; caseous throughout, and broken down in the center. No other tubercular lesions found. Control guinea-pig healthy, and inguinal glands not enlarged.

Examination of caseous substance from glands (violet and brown staining) shows large numbers of bacilli, almost all containing spores, and well developed.

In addition to these cases, I must mention that an intraperitoneal inoculation of a guinea-pig, with lupus vulgaris of the face, failed entirely. Neisser,* in his most valuable and elaborate article on tuberculoses of the skin, classifies them as follows:

1. Tuberculosis, in the narrower sense, with the formation of ulcers, situated in the cutis, and of miliary tubercles, as part of a general tuberculosis.

2. Lupus, a less harmful variety of tuberculosis, generally remaining limited to the skin.

3. Scrophuloderma ulcerosum, i. e., ulcerations which remain after the evacuation of the so-called subcutaneous cold abscesses.

Mögling objects to this classification on logical grounds, since, all being tuberculoses, it is not well to apply this name, which properly belongs to the whole class, to a single variety; and points out that, by this arrangement, we have the ulcers, extending from tubercular lymphomata, under the scrophulodermata, while those originating in tuberculosis of the bones of the skull are considered true tuberculoses. The objections to this classification are well illustrated by the following case: Man, aged twenty-one. Father died of "consumption" five years ago. Patient has cervical tubercular lymphomata of eight months' duration and advanced acute phthisis; symptoms of two months' duration. Sputum is very abundant, and contains immense numbers of bacilli. About four months ago a small lump appeared just below the inner third of the right clavicle, softened and broke, discharging "white matter" and leaving a superficial ulcer, now almost exactly similar to that in Case 1. Comparing this with the ulcer of the thorax described above, we have two lesions, anatomically precisely alike, occurring in patients about equally advanced in acute pulmonary tuberculosis, but the one which commenced as an abscess classified as scrophuloderma; the other, which was an ulcer from the beginning, as tuberculosis.

Mögling himself suggests the following division, taking the ætiology as the principle of classification:

1. Primary tuberculosis of the skin.

(*a*) Lupus.

(*b*) Tubercular ulceration and pachydermatous infiltration ("pachydermie").

2. Regional tuberculosis, extending to the skin.

3. Metastatic tuberculosis.

To this there are still graver objections than to Neisser's. The term metastatic, applied to one subdivision, implies that no other variety can originate in that way. But this, it is scarcely necessary to point out, is a pure assumption. It is indeed true that, since the tubercular character of lupus has been recognized, it has been very generally treated as probably due to a local infection from without. There is, however, not a particle of evidence in proof of this view. Case 5—where we have a lupoid eruption on the hand, combined with the so-called tubercular gumma, occurring four years after the amputation of the forearm for what was almost certainly tubercular disease of the wrist joint—would rather suggest that all these lesions were due to auto-infection from a tubercular focus, such as caseous bronchial lymphomata, as Koenig[*] has shown to be the case in probably about 79 per cent. of all joint tuberculoses. Moreover, many tuberculoses of the skin, starting from tubercular lymphomata or the fistulæ communicating with a tubercular osteitis, are, as Koenig emphasizes,[†] anatomically not to be distinguished from lupus.

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* V. Ziemssen's "Handbuch," B. xiv. Handbuch der Hautkrankheiten, 1 Hälfte. Neisser, Die chron. Infectionskrankheiten der Haut S. 581.

It seems to me far better to call all varieties tuberculoses, describing the special lesion according to its anatomical character, or supposed mode of origin, as is done for the cutaneous syphilides, letting such terms as lupus and scrophuloderma drop from scientific nomenclature, as has already been so nearly done for such terms as rupia and ecthyma in the kindred disease. Before leaving the subject, it may be necessary to say a few words as to the evidence which leads me to place lupus so unreservedly among tubercular lesions. Friedländer had placed it, as before mentioned, on histological grounds, among the tuberculoses, and was followed by Köster and Besnier, while Hardy, Pick, Baumgarten, Vidal, and others[‡] took the opposite view. Demme[#] found bacilli in very moderate numbers in three cases of lupus. L. d'Outrelepont[‖] found them in seven cases. Pagenstecher and Pfeiffer[△] inoculated three rabbits, in the anterior chamber of the eye, with secretion from lupus of the conjunctiva. The first inoculation was apparently successful, but no microscopic examination of the diseased iris was made. In the second and third cases, however, this was done, and numerous bacilli were found. A fourth case had produced no result after four weeks. They failed to find bacilli in the lupus of the conjunctiva used for inoculation No. 3, and in numerous preparations from other lupus cases. Cornil and Leloir[◊] in twenty-two inoculations produced tuberculosis seven times. Two of the remaining animals died too soon to be of any value, and the authors were inclined to believe that some of the other cases might have succeeded if they had waited longer. In their histological examination of twelve cases of lupus they found regularly the usual tubercle structure, but out of ten sections from each case, stained by Ehrlich's method, they only found the bacillus once, and then a single bacillus. This was in a case of lupus of the ear, occurring in a phthisical person. They concluded that lupus may be an attenuated form of tuberculosis. Malassez[‡] did not find the bacillus, and his inoculations failed also. Morison[‡] found no bacilli in ten cases, and mentions that Dr. Symington had the same experience in at least fifteen more cases. I have only had opportunity myself to make two inoculations with uncomplicated lupus. The first, as already related, failed entirely, and it is still too early to judge of the second.

Finally, Koch[*] has demonstrated the bacilli in four cases of excised lupus; the bacilli were always in giant-cells, and occurred so sparingly that in one case twenty-seven and in another forty-three sections were examined before a bacillus was found. With these four, and three other cases from which only scrapings could be obtained, inoculations were made, and all gave positive results. In the face of so many successes by reliable observers, I can not admit that the question is still an open one because there have been a certain number of failures. Dr. Morison,[†] who has been kind enough to give me the details of his examinations, states that the sections were kept in the staining fluid three quarters of an hour, in an oven at the temperature of the blood, and *completely* decolorized in nitric acid thirty-three and one third per cent., which, as he states in his article, sometimes took as long as five minutes. Both these are doubtful proceedings, to the dangers of which Koch[‡] has specially called attention as follows: "After a deeper staining, which gives decidedly better and more reliable results, nitric acid no longer completely decolorizes the stained layer, and sections which, as was especially mentioned, must be stained *for a longer time and very intensely*, retain always after the treatment with nitric acid a moderately dark staining. The expression 'decolorized' is, therefore, here not to be understood literally. The failure in staining the bacilli seems, in most cases, to have depended on the fact that it was supposed the preparations must be altogether colorless after the nitric-acid treatment, and that, in order to attain this, they have been *in part too little stained*, and in part *allowed to remain too long in the acid*."

The fact that Dr. Morison demonstrated the bacilli by this method, in other tubercular tissues, proves nothing, for, as I have repeatedly found, where many are present, a certain number will show when stained even by very inferior means. The extremely small numbers in which the bacilli occur in most cases of lupus would itself account for most of the failures.

IV. MISCELLANEOUS TUBERCULOSES.—1. Tuberculosis of the tongue, February, 1884.

Amputated in 1881. Old alcohol preparation.

Microscopic examination shows diffuse tubercle, containing many giant-cells, and extensive cheesy degeneration.

Five preparations. Four negative; in one a giant-cell contains three bacilli, and two others contain two each. This case is of interest, as confirming the observations made by Vidal, and referred to above, that the bacilli can be found in old preparations. I am inclined to think, however, that many bacilli had undergone some change, which interfered with the staining, for the sections examined were very large, and a really enormous number of giant-cells had been carefully gone over before these very few bacilli were found, while Koch,[#] in two cases of tubercular ulcer of the tongue, found large numbers.

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[*] "Tuberculose der Knochen und Gelenke," S. 34.

[†] *Ibid.*, S. 42.

[‡] Quoted by Cornil et Leloir, "Arch. de physiol. norm. et path.," 3 Avril, 1884, p. 325.

[#] "Berl. klin. Wochenschr.," 15, 1883. Tuberkelbacilli im Kindesalter.

[‖] "Monatshefte für prakt. Dermatologie," 6, 1883.

[△] "Berlin. klin. Wochenschr.," 19, 1883. [Pfeiffer reported afterward ("Berl. klin. Woch.," 28, 1883) the discovery of the bacilli in sections of lupus of the conjunctiva.]

[◊] "Arch. de physiol. norm. et path.," 3, 1884. Recherches expér. et histol. sur la nature du lupus.

[‡] "Annales de dermat. et de syph.," August, 1883.

[‡] "American Jour. of the Med. Sciences," April, 1884. Lupus and its relations to Tuberculosis.

[*] "Mittheil. aus dem kaiserlich. Gesundheitsamt," B. ii, 1884, S. 38.

[†] Private letter.

[‡] "Mittheil.," B. ii, 1884.

[#] "Mittheil.," B. ii, 1884, S. 36.

2. Pus drawn with hypodermic syringe from abscess in connection with tubercular orchitis.

Two preparations, fuchsine. One negative; one contained four bacilli.

3. Pus from cold abscess of the right iliac fossa, occurring in a young woman with symptoms pointing to caries of the lumbar vertebræ. Pus allowed to settle, and sediment taken.

Five specimens, violet and brown. Two negative; one contains four, one two, and a third one bacillus.

4. Pus from cold abscess, connected with tubercular arthritis of shoulder.

Boy, aged fifteen. Disease of four months' duration. Pus drawn with hypodermic syringe, and allowed to settle.

Eight specimens, violet and brown. Five negative; in one, one bacillus, and in each of the remaining, two found. In several of the specimens large spores, exactly resembling those described and figured by Koch,* were seen stained violet, the only difference from those mentioned by Koch being that no uncolored spores of the same size were seen. The pus had stood more than twenty-four hours before being spread on cover glasses.

This is the only occasion on which I have seen such spores. They are not, of course, supposed to have anything to do with the tubercular process, and are only of interest because they stain in the same way as the bacilli. What are generally believed to be the spores of the tubercle bacillus are only to be seen as minute unstained interruptions in the stained body of the bacillus. As they can not be stained in any known way, they may, of course, exist in large numbers in tissues or fluids without our being able to appreciate their presence, and this affords a plausible explanation of the fact that material in which few or no bacilli can be found, such as cheesy substances, often possesses most virulent infecting properties. I have examined the sediment of urine in a number of cases of pyelitis, supposed to be tubercular, without finding the bacilli in any of them.

The small number of cases in which I have made examinations of pus is due to the fact that Schlegtendal † had already made extensive observations in this direction. It was obvious, almost from the first, that the examination of sections for diagnostic purposes could find but a very limited application, on account of the time and labor required for preparing and examining them. With pus, however, which can usually be obtained before operation, and is dried on cover glasses, like sputum, for examination, the process is a much simpler one, and, could the bacilli be found with any certainty, it would be a valuable resource in doubtful cases. In forty cases of tubercular bone, joint, and glandular disease, in which the abscesses had not yet been opened, Schlegtendal obtained positive results in only seventeen. In fifty-five cases of tubercular fistula, communicating with bones, joints, glands, and the urinary apparatus, with five of tubercular ulcers of the skin, he obtained only nine positive results.

The most, therefore, that we can say is that, in a certain number of cases, the discovery of the bacilli may give us certainty, while the failure to find them offers no presumption against the tubercular character of the disease. Something, I think, is gained by letting the pus settle for several hours, and examining the sediment.

Although Friedländer,* Rosenstein,† M. Babés,‡ and Kredic # have found the bacilli in the sediment of the urine of patients suffering from genito-urinary tuberculosis, my own results lead me to believe that it will prove of little more value here than in fistulæ and ulcerations.

5. Tubercular epididymitis.

Man, aged fifty. Disease first noticed three months ago, and suppuration had occurred rapidly.

Castration, July 22, 1884.

Inoculation of guinea-pig, subcutaneously, in abdomen, with tubercular material. Wound of inoculation closed *per primam.* Within two weeks a sluggish ulcer had formed; inguinal glands became rapidly enlarged. September 7th, enlarged inguinal gland excised. It is almost entirely caseous, and broken down in the center.

Examination of cheesy matter on cover glasses shows considerable numbers of bacilli (violet and brown).

This last illustrates the ease with which inoculation can be used for diagnostic purposes. The actual operation takes but a few minutes, and the bacilli occur in such numbers in the caseous lymphatic glands that the demonstration is as rapid and simple as in sputum. Only in lupus it seems that, probably on account of the very small number of bacilli, inoculation may frequently give no result. Though, even here, as Koch has obtained such uniform results, it is possible that the failures depend on errors in manipulation.

(*To be concluded.*)

A CONTRIBUTION TO THE STUDY OF

ADENOID VEGETATIONS AT THE VAULT OF THE PHARYNX.||

By BEVERLEY ROBINSON, M. D.

In the short paper which I shall read before you I do not intend to give an exhaustive description of adenoid vegetations in the upper portion of the pharynx. My purpose is more restricted, but may be, perhaps, on that account, more interesting. I wish merely to narrate in a brief manner something of my own observation and treatment of these growths. In some particulars, at least, it seems to differ slightly from the recorded experience of other specialists in this country and of those abroad. Bosworth and Swinburne in the United States, and Meyer, notably, in Denmark, have met with adenoid vegetations very frequently. Thus, Dr. R. E. Swinburne writes,^ at the Harlem Eye, Ear, and Throat Infirmary, since its organization in January, 1882, up to September, 1883, 148 patients applied on account of throat and nasal affections, and of these, 15, or 1 in 10, had adenoid vegetations. In 325 *throat* and *ear* patients he found 42 cases of glandular hypertrophy.

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* "Mitthcil.," B. ii, 1884, S. 12, and Taf. v, fig. 23.

† "Fortschritte der Medicin," 1883, No. 17.

* "Mikroscopische Technik," S. 117. Found only in urine taken from the cadaver.

† "Centralbl. für die med. Wissensch.," 1883, No. 5.

‡ "Progrès méd.," 1883, No. 9.

Ref. by Marchand, "Deutsche med. Wochensch.," 1883, No. 15.

|| Read before the American Laryngological Association, May 14, 1884.

^ "Med. Record," October 6, 1883, p. 373.

Meyer reports, out of 2,000 children examined in Copenhagen, the existence of these vegetations twenty times. My own experience does not correspond with that of either of the authors just cited, since I have met only infrequently with these growths. It is true that I have not counted as such a development of tissue which is very similar in appearance, and is possibly not very unlike in structure to the follicles one sees in chronic pharyngitis. Those growths which I call vegetations are of larger dimensions and more closely juxtaposed. I have seen and operated upon a case in a tolerably successful manner, during the course of the past winter, in which the adenoid growth was flat, several millimetres in thickness, and included the entire area of tissue between the two Eustachian orifices. As to instances of the marked fimbriated variety to which Meyer refers, these, as well as I remember, I have not seen. Only a few, relatively, of the large, pendulous vegetations, with smooth surface and pink color, have ever come to my throat clinic—formerly during several years at the Manhattan Eye and Ear Hospital, and during the past four years at the Out-door Department of the New York Hospital. One of the most remarkable of these growths that I have seen was discovered by me in a young woman at St. Luke's Hospital, April 30, 1882.* The adenoid hypertrophy was readily removed by means of Bosworth's modification of Jarvis's snare, and was afterward presented by me at a meeting of the New York Clinical Society. The following is a brief history of this case:

E. P., twenty-four years old, single, saleswoman, born in the United States, entered St. Luke's Hospital, March 8, 1882. One year before entering the hospital she contracted naso-pharyngeal catarrh, which had never left her. Physical examination showed catarrhal discharge from pharynx, nasal polypus in right nasal fossa posteriorly, discharge from ears (due to eczema), and excoriation of parts about external meatus.

April 3d.—Examination of larynx showed some inflammation and clubbing of left arytenoid cartilage.

13th.—Patient has considerable pain in throat and some huskiness of voice. Posterior rhinoscopic examination shows ulceration of mucous membrane covering inferior turbinated bone on left side. Adenoid growth just behind upper portion of septum and apparently adherent; both Eustachian tubes open and full of mucus.

26th.—Raised a little blood this morning.

30th.—Adenoid tumor above described removed by aid of snare écraseur (Bosworth's modification of Jarvis's), the loop being introduced through the naso-pharyngeal space. The tumor was easily engaged in the loop, and came away with slight hæmorrhage. The growth as removed was about the size and shape of a chestnut, and had apparently a distinct pedicle.

May 12th.—No vestige of the tumor made out. A few adenoid growths were seen on the posterior portion of the septum. Dr. Robinson operating, rubbers were passed through the nose and drawn through the mouth and fastened behind the head. In this manner the soft palate was drawn forward and upward out of the way. A small, blunt uterine curette, bent to the proper angle, was passed backward and upward through the fauces and into the posterior nares until the growth was reached. It was then a very simple operation to scrape it off. Little or no hæmorrhage resulted, and the patient suffered only slight pain.

20th.—No sign of return of the tumor. Cough has disappeared. No discharge from the ears; still slight clubbing of left cartilage of Wrisberg, with considerable redness. *Discharged improved.*

If I were merely to consider my own experience in private, hospital, and dispensary practice, I should state emphatically that adenoid vegetations of the type just described are relatively rare in New York city. I have been told, however, by a friend and distinguished brother specialist of this city, that he has already operated upon such hypertrophied masses very many times. Singular, also, to relate, I have yet to encounter a single instance in which one of these growths compressed the Eustachian orifices to any appreciable degree, and occasioned impaired hearing in this manner.

I presented a young woman at the New York Practitioners' Society last spring* who, with a pronounced deflection of the nasal septum, had a large, single pendulous adenoid growth hanging directly down from the vault of the pharynx, behind the posterior border of the nasal septum, and partially obstructing both posterior nasal orifices. In this case there was *deafness* in one ear, but it was not caused by pressure from the glandular hypertrophy, nor was the hearing defective on the side where the nasal passage was occluded by the deviated septum, and the voice was *not at all affected.*

The adenoid hypertrophies I have observed have usually been moderately soft to the touch, but not very sensitive, and have rarely bled, even a little, when examined by the finger with a moderate degree of gentleness. Certainly the use of a spray or douche from the posterior nasal syringe has never caused them to bleed. These growths have ordinarily been covered with more or less grayish, viscid mucus, which has been difficult to expectorate, and has occasioned some of the uneasy sensations from which the patients suffered. They have not, however, caused so much mucous discharge from the post-nasal space as some forms of nasal catarrh with smooth but general hypertrophy of the nasal and naso-pharyngeal mucous membrane do. These patients have often muffled and defective speech. As to the patients' inability to pronounce certain consonants in an intelligible manner, a fact which has been so much insisted upon by Meyer, this statement I am unable to corroborate in *an absolute* sense by any case I have observed. It is true, however, I have remarked that the enunciation of certain words was wanting in clearness, and there was a peculiar, stuffy pronunciation, which was, perhaps, specially noticeable whenever the nasal consonants were articulated. This partial loss of function is explained by the fact that the nasal passages have lost their normal resonance. From the condition named to that of the individual who has the true "dead" voice, so-called, is not very far.

Besides the marked defect of speech to which I have just referred, the patient is apt to complain of a sensation like that produced by a foreign body in the naso-pharyngeal cavity. Whenever I have remarked any very great amount of thick grayish or greenish mucus in this region, I have also found, on further examination, a considerable degree of hypertrophic nasal catarrh. The flattened, pinched, contracted appearance of the nose, as well as the broader configuration at its base, which has been described as characteristic, must exist, as I believe, in but few cases—since I have never met it so pronounced as in any way to be properly considered pathognomonic. Inasmuch, however, as it is not uncommon to have chronic hypertrophic nasal catarrh present at the same time that there is preexistent or concomitant glandular hypertrophy at the vault of the pharynx, it can be appreciated how it is that we may have occlusion of the nasal passages which is quite as much caused by the thickened pituitary membrane as by the hyperplasia of adenoid tissue in the retro-nasal space. If both these morbid conditions are present, the lower portion of the nose may be flattened in an antero-posterior direction, while the upper portion may be more pinched from side to side than it is normally. Thus the nose may be in reality broader below than it should be, and it seems particularly exaggerated when compared with the upper portion. Whenever the hearing has been affected, the aural defect has been, in my experience, occasioned by extension of the accompanying catarrhal affection of the naso-pharynx. In this belief I am glad to find myself in partial accord, at least, with Dr. Swinburne, who states [*] that the aural disease accompanying adenoid vegetations of the vault "is caused almost, if not entirely, by an extension of the inflammation during an attack of acute naso-pharyngeal catarrh to which patients in this condition are predisposed." If the aural catarrh involves the middle ear and has become chronic, the patient may suffer from vertigo and tinnitus. This complication of glandular hypertrophy is, however, not so frequently met with as is generally believed. In two private patients and in one hospital patient in whom the adenoid hyperplasia at the vault of the pharynx was excessive, there was no perceptible diminution of the hearing power. This statement seems to be opposed to that of Meyer, since this author affirms that the best place for observing adenoid vegetations is *among ear cases.* Out of 102 instances of glandular hypertrophy observed by him, 72 individuals suffered from disease of the ear. In Dr. Swinburne's practice at the Harlem Infirmary, "179 patients suffering from middle-ear disease applied to him for treatment, and of these, 27, or 1 in 6½, had adenoid vegetations." In a large proportion, indeed, of all cases of adenoid vegetations the ears were found diseased. The exact proportion given by Dr. Swinburne is twenty-seven out of forty-two cases, or about three fifths of the total number seen by him. "Of the twenty-seven ear cases, there were perforations in one or both drumheads in fourteen." The only way in which I can reconcile the reported observations of Dr. Swinburne with my own experience is by assuming that we do not agree as to precisely what should be considered as an *abnormal* growth of adenoid tissue in the pharynx, and in regard to this point there are considerable personal differences of opinion on the part of several writers. At what stage of development the morbid change commences it is indeed somewhat difficult accurately to determine, for the reason that here, as in other regions of the body, there are *individual idiosyncrasies.* While in many persons there are marked elevations of tissue in the pharyngeal vault, which are separated by fissures or depressions, in others, equally healthy, the normal aspect is that of a tolerably smooth, uninterrupted surface. Bosworth [*] remarks, "just as we see instances of faucial tonsils where the organs scarcely are seen between the pillars, and again find those in whom the tonsils are quite prominent organs and occupy a moderate space in the throat, so we have almost similar varieties as regards size of the pharyngeal tonsil." In this same line of thought a reviewer (H. R. Swanzy) of Loewenberg's brochure [†] "On Adenoid Tumors in the Naso-pharyngeal Space" writes very wisely as follows: "Indeed, in some instances it is difficult to decide whether we have before us an extreme, but yet physiological, development of the pharyngeal tonsil, or a commencing hypertrophy of it. From a clinical point of view, therefore, a diseased condition need not be admitted, unless the increase in volume of the tonsil be such as to interfere prejudicially with the functions of the naso-pharyngeal cavities." In this connection it is but fair to add that others than Dr. Swinburne have lately described the great frequency of aural complications in cases of adenoid vegetations. In England, Woakes maintains that five per cent. of persons suffering from these growths have aural disease. He further states that, when the vegetations are seated at the vault of the pharynx, the aural complication is apt to be suppurative otitis, with perforation of the drum, and the after sequelæ of aural polypus; whereas, if the hypertrophied glandular tissue be situated on the posterior wall of the pharynx, it is accompanied by great thickening of the adjacent mucous membrane; and this implies "a complete mechanical occlusion of the Eustachian tubes," which ultimately produces chronic non-suppurative inflammation of the middle ear, with sinking in of the membrane and severer forms of deafness. In those cases of adenoid vegetations of the vault I have seen, *suppurative* otitis has not occurred. As to *non-suppurative* inflammation of the middle ear, occurring as a consequence "of a complete occlusion of the tubes," this explanation I can not admit to be true. Further, I take exception to the view which calls chronic follicular pharyngitis (as I believe) adenomatous disease, or post-nasal vegetations.

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* See the records of the hospital.

* See report of case, "Med. Record," July 21, 1883.

It is unusual, however, to encounter pronounced adenoid vegetations at the vault of the pharynx without at the same time finding very marked follicular pharyngitis. This fact should show us the value, whenever the latter disease is discovered, of examining the naso-pharynx by means of the small mirror, as with the index-finger. Not always does toms sufficient to direct attention to it.

Sometimes it has been discovered almost by chance, or while search was being made as to the condition of the Eustachian orifices in old aural diseases, or of the naso-pharynx in chronic faucial inflammations.

In one family under my care I have noted an evident hereditary influence in the transmission of adenoid vegetations. Thus, the mother had adenoid hypertrophy when a girl, as she believes, and recovered from it without an operation. Two children out of five are now subjects of it—one, a girl, eighteen years of age, having it to a very pronounced degree; the other, also a girl, ten years of age, having it only to a moderate extent. Meyer writes: "I have eleven times found two, seven times three, once four children of the same family affected, and in not a few cases one or both parents were, or had been, suffering in a similar way." The treatment of these vegetations should vary in accordance with their form, size, and situation. In several instances I have performed, with moderate success, the operation to which Meyer first directed attention. Usually those cases which I have selected for this procedure have been examples of flat, sessile growths of small size. By means of tolerably thorough scraping, repeated one or more times, I have unquestionably benefited these patients. Thus far I have never in this manner effected an absolute cure. It may be that my lack of entire success is attributable to the fact that I have left behind a certain amount of unhealthy tissue. While this may be true, I will add that I have removed all the tissue that it seemed judicious to remove, and yet the symptoms of fullness and weight in the posterior nares have only been in part modified. Within rational limits, Meyer's operation appears to me perfectly safe and legitimate. I do not consider it as one universally applicable in the treatment of these vegetations, and would be inclined to limit its sphere of usefulness to those of the variety referred to. While other cutting operations than that of Meyer have been proposed by different writers, they do not inspire me with so much confidence. Moreover, I would insist that *every* cutting operation performed at the vault, or on the side-walls of the upper pharynx, should be guided by the finger or the rhinoscopic mirror. Otherwise too much or perfectly healthy tissue will probably be cut off, which can but be detrimental to the patient. There are many cases, however, in which, owing to obstruction of the nasal passages by bony growths, deflection of the nasal septum, or simple hypertrophic catarrh, Meyer's ring-knife can not be used. There are also many instances in which, by reason of great intolerance of the patient to the finger, and where the rhinoscopic mirror can not be employed to guide the direction of the cutting-knife on account of the small space between the free margin of the soft palate and posterior wall of the pharynx, when Thomas's blunt-wire uterine curette, bent so as to adapt it to the parts involved, will prove very serviceable. Not having a cutting edge, it may be repeatedly scraped over the vault of the pharynx in the median line, and a short distance to either side, until the sessile growths situated in this region are completely broken up or disorganized. In several cases I have had great satisfaction in the use of this curette, and, on account of the facility with which it can be manipulated, believe it deserves to be more commonly employed. A few days after the blunt curette has been thoroughly used, it is well to apply either fused nitrate of silver or the galvano-cautery to the remains of the adenoid growths.

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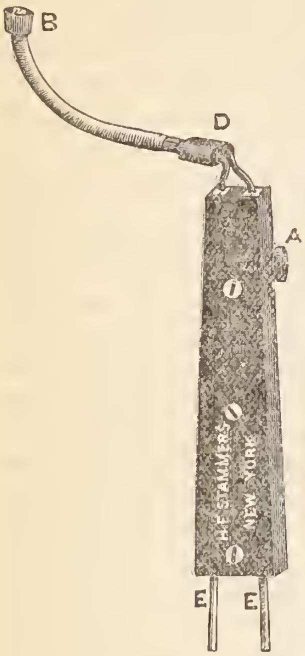
[*] *Loc. cit.*, p. 374.

[*] "Jour. of Otology," vol. iv, January, 1882.

[†] Paris, Delahaye & Co., 1879.

In cases in which Meyer's knife can not be used by reason of obstruction in the nasal passages, or in those where the patient is an adult, with a tolerant throat and a capacious naso-pharynx, the galvano-cautery can be employed with great advantage. To obtain the best results from its use and avoid certain unfortunate complications require considerable manipulative skill, which can only be acquired by repeated operations. In my opinion, its use is particularly adapted to the treatment of sessile growths of moderate size, the wire écraseur of Jarvis being better suited to operations upon pedunculated growths. Whenever the galvano-cautery is employed, it can only be applied with accuracy and without probable evil consequences when the soft palate is drawn forward and fixed in position, either by Wales's method or by means of Swinburne's mouth-gag. This latter instrument, which is a modification of Whitehead's, is said by its inventor, after using it in fifteen cases of adenoid vegetations of the pharyngeal vault, "to be all that is desired." The modifications consist mainly in the additions of palate retractor and a bar with a slot and side-bolt. The tongue depressor of Whitehead's gag is left out. I have used this gag on one occasion in a very tolerant patient, and feel compelled to say that my experience was anything but successful. The palate retractor could not be kept in place, but continually lost its hold of the soft palate as soon as some traction was made, and, so far as the view of the naso-pharynx was concerned, did not give anything like so satisfactory a view as Wales's rubber cords. Perhaps other cases may enable me to reverse my unfavorable judgment of this improved mouth-gag. I have not found it necessary to give ether to adolescents or adults when I have operated. In unruly children I can understand that at times it may be essential. Except in very rare instances, I doubt the expediency of employing the galvano-cautery for adenoid growths of children in preference to the curette or snare. When the two last instruments are employed, a suitable mouth-gag may, perhaps, be advantageously fixed in the mouth prior to the operation, so as to restrain a child who would otherwise obstinately shut his mouth and prevent the operator's eyes from seeing, even in part, where the curette or the loop of the snare was carried and applied. In order to have good results with the galvano-cautery, it is important to employ a convenient handle and suitable cauterizing points or spirals. The best handle with which I am familiar is that of Leiter, and a small-sized spiral, about two to three lines in breadth, will be well adapted to most cases of adolescents. The stem of the instrument which unites the spiral with the handle should, of course, be of small diameter and proper curve to be introduced into the naso-pharyngeal space. An instrument composed essentially of two copper-wire conductors, separated from each other by some insulating material like ivory, bone, or mica, bent at nearly a right angle toward its distal extremity, terminated in a small spiral of platinum, and wrapped with ordinary white cotton thread, or a thin layer of absorbent cotton and cotton thread, is the form I have most frequently employed. The protector and spiral spring in Dr. Lincoln's electrode make the instrument altogether too bulky. If the protector is made of bone, it is liable to crack and break off when the platinum spiral is heated sufficiently; if it is made of hard rubber, it softens or takes fire. While the protector shields the adjacent parts from being burned in the event of a necessary effort of gagging or deglutition, a sudden movement by the patient, or a lack of skill on the part of the operator, my efforts thus far to make one which would be really practical have been only partially successful. The one I present to the society is made of the outer layer of asbestos, does not chip or break off easily, is smaller than Dr. Lincoln's, and is not a very good conductor of heat, although in none of these respects is it at all so perfect as I desire. The platinum spiral, with its protector, should be introduced, *cold*, behind and above the soft palate, guided by the rhinoscopic mirror. So soon as it is visible in the rhinoscopic mirror, and its proper location established, the electric current should be passed. The platinum spiral should not be heated beyond a red heat, because it would burn too rapidly and be apt to burn more deeply than we wish in a given point. The amount of heat necessary to bring the spiral to a proper temperature can be found out accurately, before the operation is begun, by previous trials with the battery. At the time of the operation the assistant is cautioned only to lower the plates of the battery far enough into the caustic fluid to produce, as nearly as possible, the amount of heat required, or else the amount of fluid needed to generate the proper degree of temperature is originally put into the cells, so that the plates may be lowered to the bottom of the cells and allowed to remain.* We shall be obliged in either case, however, to watch the platinum spiral closely, and not allow it to remain more than a few moments in any particular spot. Just before we wish to withdraw the spiral we should shut off the current by stopping pressure at the handle with the right thumb, and usually we can bring the instrument out of the mouth rapidly and without touching the palate, fauces, tonsils, cheeks, or lips. When the patient makes a sudden effort of gagging or deglutition, or when the soft palate is not held tight enough by the elastic cords, the palate may rise up against the hot spiral, if unprotected, and be burned superficially. This, in my experience, has never resulted in the permanent injury of the patient.



The operation with the cautery is not very painful, and, if properly done, the hæmorrhage is slight. It has to be repeated on several occasions, at intervals of a week or more, in order to rid the patient entirely of the growths at the vault of the pharynx, from which he suffers.

I have yet to see an acute inflammation of the middle ear following its use—such, in fact, as occurred in the practice of one member of our association. This serious complication has been avoided, I believe, by the care I have exercised, both during and subsequent to the operation. When the vegetations were very close to the Eustachian orifices, I have not allowed the incandescent wire to remain in this position more than a few seconds on any particular occasion. When the operation was finished, I have plugged the external auditory canal softly with cotton-wool, and obliged my patients to go home immediately and remain in the house twenty-four hours. I have never had occasion to do more than this, although, of course, in case of need it would be wise to make use of an anti-inflammatory nasal spray (as that of Dobell), and instill a few drops of solution of atropine into the ears. In case the pain in the ears continued in spite of this treatment, and evidence were given, by bulging of the membrana, that there was fluid in the tympanic cavity, puncture of the drum should be made without delay. The slight constitutional symptoms of headache and general malaise which have sometimes followed the use of the cautery are not of sufficient importance to deter from its use, when to combat local conditions it is plainly indicated.

DISCUSSION.

Dr. Langmaid referred to the case of a boy shown to the society some years ago at its meeting in Boston, and said: The patient was deaf, and a most discouraging report of his condition was given. I seized a growth, however, in the naso-pharynx, and, on withdrawing it, found it to be a large-sized soft tumor, which probably had extended from one Eustachian tube to the other. The boy was able to hear immediately after its removal, and his hearing afterward became perfect.

Dr. Mackenzie.—There is no class of cases in which more brilliant results can be secured from treatment than those in which middle-ear trouble depends upon adenoid growths of the pharynx, and especially in children. In Baltimore I find this a very common cause of deafness and catarrh in children, and the patients are absolutely cured on the removal of the growth. The variety of tumor which I generally see is the more or less soft papillomatous form. I nip the growth off with a pair of forceps, and then curette the base with one blade, fixing the part with the other. For a week or two after the operation I spray the pharynx with alcohol, in which there is some zinc, and this causes the base to shrivel up. The growth does not return. Some persons seem to entertain the idea that the patient should be let alone, supposing that the difficulty will disappear with puberty; but this practice is most pernicious, as it allows changes to take place which by the time of puberty may prove altogether irremediable. With regard to the absence of tendency to bleed, I do not agree with Dr. Robinson. I have found that in nearly all cases the finger becomes streaked with blood when introduced into the naso-pharynx. The bleeding is limited in amount, it is true, but to a certain degree it is almost pathognomonic. With regard to the ætiology of the growths, some gentlemen have referred to hereditary tendency, but the vast majority of cases which have come under my observation were due to some acquired difficulty in the larynx, especially diphtheria.

Dr. Major.—Hypertrophy of the naso-pharynx, as Dr. Robinson has remarked, depends upon what one's idea of hypertrophy is. What one considers hypertrophy another may not so regard. I find it one of the common causes of mouth-breathing in children, and in them I usually remove the hypertrophied tissue with the finger-nail. In adults, in whom the growth is too tough to be removed in this manner, I employ some instrument.

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* Lennox Browne writes that the only way to insure regularity of the cautery power "is to employ a rheostat to measure exactly the heat of the wire."

Dr. **Roe.**—I have removed such growths with the forceps, with satisfactory results. Different forms of forceps may be employed. I think, with Dr. Mackenzie, that, if the finger comes away streaked with blood after an examination, there is probably a growth. I consider all the tissue which can be readily grasped with the growth by the forceps as legitimate prey.

Dr. **Asch.**—I agree with Dr. Robinson as to the comparative infrequency of adenoid vegetations of the naso-pharynx. In two rather large dispensary classes I have seen comparatively few cases. The patients rarely suffer much, the manifestations being usually confined to slight hoarseness. The treatment depends upon circumstances. In some cases I find the snare does exceedingly well; in others the forceps answers an equally good, if not a better, purpose. In no case have I resorted to the galvano-cautery, because I regard its introduction into the vault of the pharynx as rather a serious matter, the advantages to be gained not being commensurate with the dangers. I have treated many cases by the application of corrosive agents. Chromic acid sometimes does extremely well, applied on a bit of absorbent cotton wrapped on a probe. Tannic acid will sometimes relieve in a marked degree, if it does not cure. I do not regard the more radical measures as necessary in every case.

Dr. **Jarvis.**—With regard to the use of the forceps in removing growths from the vault of the pharynx, I have from an early period had a prejudice against it and manipulation with it in this part of the throat, a dark cavity where tissue of an indefinite amount and kind is grasped and torn from its attachments. The many variations in the anatomy of the parts further render such a procedure dangerous. This aversion has recently been shown not to be unfounded. About three months ago a case of what ultimately proved to be carcinoma came under my observation, which had been treated at the office of an expert in this city with the forceps. The patient stated that the suffering which he experienced from the use of the forceps in this expert's hands was most excruciating. The parts were very much torn, and ragged edges remained. Subsequent treatment by means of the snare produced scarcely any discomfort.

Dr. **Robinson** closed the discussion, and said: The more I examine throats the less am I disposed to interfere except in a very mild way, unless I have been enabled to conclude pretty positively that the symptoms from which the patient suffered were to be attributed to some particular morbid condition. I have no doubt of the truth of the statement contained in Dr. Shurly's paper, that, in at least one half of the cases operated upon by different methods, a considerable amount of harm is done. When I spoke of the galvano-cautery I referred to exaggerated cases in which other means of treatment had failed.

NITRIC ACID A PROBABLE MEANS OF DIFFERENTIATING BRIGHT'S DISEASE OF THE KIDNEY FROM THAT IN WHICH THE ALBUMINURIA IS CAUSED BY FUNCTIONAL DISTURBANCES AND MAY BE TERMED "LATENT ALBUMINURIA."

By ALLARD MEMMINGER, M. D., Charleston, S. C.,
PROFESSOR OF CHEMISTRY IN THE MEDICAL COLLEGE OF SOUTH CAROLINA.

In 1827 Richard Bright published his report of medical cases in which albumin appeared in the urine; he showed that certain alterations of the kidney were associated with the excretion of albumin, and from this he inferred that the presence of this albumin was an indication of those pathological conditions of the kidney which, besides, were likely to induce general dropsy. He seems, however, to have guarded this statement later on by considering functional disturbances, when persistent, as creating in the kidney a functional disorder which eventually caused structural changes.

Opposed to this view were the opinions of Graves and Prout, who asserted the real cause of albuminuria, and also of the kidney disease, to be not an alteration in the structure of the organs that secrete the urine, but in the abnormal composition of the blood, or else perverse action of the albuminous element of the blood-serum. Finally these opinions have again received opposition from the pen and researches of Stokvis, of Amsterdam, who, by experiments conducted by himself, and some on himself, seems to arrive at the conclusion that the albuminuria is due to disturbances in the circulation, together with an increase in the normal blood-pressure, whereby the albumin is squeezed through the excreting vessels of the kidneys.

Whatever view we take, then, as to the cause of the albumin in the urine, I think we can safely say the combination of albumin with the urine is an evidence of some pathological condition, be it of the blood or else of the structure of the urine-secreting apparatus. Whether, then, we consider the albumin of serum like unto or different from the albumin in urine, or whether white-of-egg albumin taken into the stomach will appear in the urine, we still must consider, with the great Berzelius, that white-of-egg albumin and serum albumin behave very differently with nitric acid, both being precipitated by this reagent, the latter being dissolved by an excess of the same, whereas the former is only moderately soluble.

It was from this standpoint, coupled with the fact that other albuminous principles (namely, globulin, peptones, etc.) sometimes appeared in the urine, that I instituted an examination into the use and application of nitric acid as a means for testing the presence of various modifications of albumin, as well as observing its effects on different urines taken from patients not supposed to be subjects of any serious organic affection of the kidney. On my first investigation I was struck with this fact, and, indeed, convinced of the correctness of the observations of others, that nitric acid and heat failed at times to demonstrate the presence of albumin, the same being found to be present by both picric acid and sodium tungstate.

This occurred so often that I was forced to discard nitric acid, and use in its place the other more sensitive reagents.

On reviewing the matter, and remembering Gerhardt's views of latent albuminuria, I conceived the idea that possibly this failure of nitric acid was only in the latent form of the disease, and that, if I could so modify its action, or rather the action it produced on the albumin of the urine, I might possibly arrive at a way of diagnosticating these conditions. After many trials and as many failures, I at last found that, if, after heating (boiling) the urine and nitric acid together, I plunged the test-tube into very cold water, for the first time albumin appeared, which, on comparison with the same amount of urine treated by picric acid, showed a like amount of an albuminous principle. This discovery being made, I collected several specimens, and arrived always at the same result. I have since endeavored to explain this difference of behavior in the albumin; but have as yet not succeeded—it possibly may be due to the fact that serum albumin when in very small amounts is soluble, and that, when heated and cooled so suddenly, the atoms arrange themselves in different forms, and possibly behave as white-of-egg albumin would. Although, then, not disposed to consider this as having a pathological connection with that condition of the urine in fever-patients termed by Gerhardt latent albuminuria, I am satisfied the behavior is one and the same with this reagent. In fine, it has appeared to me from my investigations that when nitric acid and heat failed, being used in the ordinary way, it was a sign that the disease (or, I should rather say, the cause of the albumin) was due to functional disturbances and not to any serious disorganization in the kidney-secreting cells. I have as yet not had the opportunity of making a post-mortem examination of one who has suffered from what I may term functional albuminuria, but, from the readiness with which it gives way to treatment, I am compelled to regard it as not belonging to that class of cases known as Bright's disease. The following cases I mention as being typical of this functional derangement of the kidney:

Case I.—A male patient, about sixty years of age, born of healthy parents, was well up to a year ago, at which time the disease from which he is now suffering first made its appearance. When called in, I found this gentleman suffering from shortness of breath, aggravated at times by what I termed in his case nervous asthma. He also had an extremely irritating and violent cough. An examination of his lungs, however, proved the absence of any decided pulmonary trouble; at the apex of the left lung there was a slight dullness, but not enough, in my opinion, to warrant the idea of phthisis pulmonalis. Besides a little dullness, all I could detect was a slight emphysematous condition, no doubt brought on by the violent fits of coughing. Being at a loss to discover the cause of this chronic bronchitis and nervous asthma, I instituted an examination of his urine. I was struck with its decided acidity, and found, on further examination, a large excess of uric acid. Nitric acid was now used in the ordinary way, but gave negative results as regards albumin. Not satisfied with this, I applied my modification of the nitric-acid test, and found quite an appreciable amount. On a review of the case, I came to the conclusion that the bronchitis was due to the abnormal amount of uric acid in the system, which, by its toxic influence, not only induced this, but also the appearance of albumin, possibly aggravating the same by an irritating action on the structure of the kidney. With this view, I placed my patient on the use of the following:

℞ Lithii benzoat.......................... ʒj;
Lithii carbonat.......................... ʒij;
Potasii bicarbonat.......................... ʒij;
Chloroformi.......................... fʒj;
Aquam destillatam.......................... ad f℥iv.

M., ft. mist. Sig. A teaspoonful three times a day in a tumblerful of Buffalo Lithia Water, Spring No 2.

The effect of this treatment was very decided, for not only did the cough cease, but the labored respiration, nervous asthma, and albuminuria disappeared in the space of about ten days.

Case II.—A male patient, about twenty-eight years of age, of healthy parentage, supposed himself the subject of syphilis. My diagnosis in this case was neuralgic herpes of the prepuce, caused by excess of uric acid in the system. This gentleman was also subjected to an alkaline treatment, using the benzoate of lithium and finally Buffalo Lithia Water, Spring No. 2. Under this treatment the ulcers healed, the albumin disappeared, and the neuralgic symptoms entirely ceased. He has, however, to continue the use of the water, as he finds as yet the trouble is likely to recur if the urine shows an accumulation of uric acid.

My plan of using nitric acid is as follows: About 5 c.c. of the filtered urine are put into a test-tube and heated to about 180° F., at which temperature the alkaline phosphates will, of course, precipitate out if the urine is either alkaline or neutral. To the fluid then are added 4 to 5 drops of strong nitric acid, and the contents, if now distinctly acid, are brought to the boiling point and there kept for a few seconds; the test-tube is now plunged into very cold water, and there kept until it has cooled. If only traces of albumin are present, fine filaments are seen floating in the urine, resembling much the appearance of mucin; if, however, larger amounts are present, the urine appears cloudy, and, on standing, deposits a precipitate of albumin. This albumin is no longer soluble in nitric acid, and, if again boiled, instead of clearing up, remains undissolved.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

A System of Practical Medicine. By American Authors. Edited by William Pepper, M. D., LL. D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, assisted by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Volume I. Pathology and General Diseases. Philadelphia: Lea Brothers & Co., 1885. Pp. 14–35 to 1094, inclusive.

Human Osteology. Comprising a Description of the Bones, with Delineations of the Attachments of the Muscles, the General and Microscopic Structure of Bone and its Development. By Luther Holden, Ex-President and Member of the Court of Examiners of the Royal College of Surgeons of England, etc., assisted by James Shuter, F. R. C. S., M. A., M. B. Cantab., Assistant Surgeon to the Royal Free Hospital, etc. With Numerous Illustrations. Sixth Edition. New York: William Wood & Co., 1885. Pp. ix–276. [Wood's Library of Standard Medical Authors.]

The Scientific Transactions of the Royal Dublin Society, Vol. i, series ii; Vol. iii, series ii.

Aphonia due to Chronic Alcoholism. Paralysis of the Lateral Crico-arytenoids. By Ethelbert Carroll Morgan, M. D., Washington. [Reprint from the "Journal of the American Medical Association."]

Observations on the Regeneration of the Vagus and Hypoglossal Nerves. By Edward T. Reichert, M. D., etc. [Reprint from the "American Journal of the Medical Sciences."]

Poliomyelitis Anterior in Adults. By Gustavus Eliot, M. D., New Haven, Conn. [Reprint from the "American Journal of the Medical Sciences."]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

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Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, FEBRUARY 7, 1885.

THE MEETING OF THE STATE SOCIETY.

The seventy-ninth annual meeting of the Medical Society of the State of New York, an abstract of the proceedings of which will be found in this issue of the journal, must be said to have been very successful. The opinion we expressed last week as to the abundance of papers was fully justified, and the character of the papers read was in general of a very high order. For the most part, also, the discussions were satisfactory.

The most noteworthy event of the meeting, of course, was the unanimous agreement upon a bill to be presented to the Legislature looking to the establishment of a State board of medical examiners, and making a State examination necessary hereafter to the license to practice. Much interest was displayed in the matter by a number of the members and delegates who had given it special consideration, but, although the work of an entire evening had to be undone, and the problem of coming to an agreement undertaken anew (and, happily, with speedy and almost unhoped-for success), there was nothing in the proceedings that could properly be called contention. It would be useless to speculate at present upon the chances of the bill's becoming a law, or upon the precise effects of its operation as a law; we may say, however, that there seems to be a reasonable prospect of its passage, and that it contains more good points than were generally expected. We hope to see good results from it; at all events, the Society has placed itself on record as having made an honest and earnest endeavor to improve the condition of the profession in the State.

The social aspect of the occasion was in every way gratifying, and by no means the least noticeable feature in this regard was the attendance, almost continuously, of the venerable Dr. Bowditch, of Boston. Mention should be made, too, of the fairness and clearness which characterized the president's rulings during the somewhat involved debate on Tuesday evening.

THE ACADEMY OF MEDICINE.

It is gratifying to contemplate such a record of prosperity and usefulness as that which relates to the career of the Academy of Medicine under the administration of the retiring president, and is embodied in his valedictory address, which we publish in this issue of the journal. Dr. Barker's presidency will be remembered for many years to come as one of the most notable in the history of the Academy. The growth of the library would of itself be enough to make it memorable, to say nothing of other evidences of the increasing importance of the organization, but the general character of the scientific work that has been done at the meetings is no less noteworthy. In this matter much has come to depend upon the personal qualities of presiding officers, and, tried by this test, Dr. Barker's management of the Academy's affairs will, beyond all doubt, be looked upon as one of the greatest achievements of a lifetime of usefulness.

The possibilities suggested in Dr. Barker's address as to the future financial condition of the Academy, shadowy as they may seem even to some of the most hopeful friends of the institution, are by no means to be set down as merely imaginary; when we remember the pecuniary good fortune that has fallen to the lot of a number of medical institutions during the past year, we can quite readily entertain the idea that the realization of these possibilities is not only destined to take place at some time in the future, but not altogether unlikely to happen within a comparatively short period.

The duties of the Academy's Committee on Medical Education will probably not be increased in quite the direction indicated in the address, unless the legislation expected by the Medical Society of the State of New York should fail to be obtained; or, having been obtained, should be found inadequate to the end in view. But in the matter of educational methods there will still be abundant scope for the activity of such a committee, in an advisory capacity.

All things considered, it must be allowed that Dr. Barker's bright anticipations in behalf of the Academy are in no wise chimerical, and we trust that the day is not distant when this will have been proved to be the case.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 3, 1885:

DISEASES.	Week ending Jan. 27.		Week ending Feb. 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	2	0	2	0
Typhoid Fever	17	6	6	3
Scarlet Fever	73	15	95	10
Cerebro-spinal meningitis	5	5	6	6
Measles	136	31	163	35
Diphtheria	39	20	67	26

The London Medical Society.—We learn that Dr. John V. Shoemaker, of Philadelphia, was elected a Fellow of this society at a meeting held January 19th. The society was founded in 1773, and is now the oldest in the country.

The University of Leipsic.—We are informed by Dr. F. S. Billings, who has just returned from Dresden, that Dr. Birch-Hirschfeld, formerly director of the pathological laboratory of the *allgemeines Krankenhaus* at Dresden, has been appointed to fill the vacancy caused by the death of Professor Cohnheim.

The New Haven Hospital.—The annual meeting of the Connecticut General Hospital Society of New Haven was held Thursday, January 29th. The report of the Prudential Committee showed that there were 125 patients in the hospital on the 1st of January, 1884; that 748 patients had been admitted during the year, and that there were 124 remaining on the 31st of December, 1884. The total number of patients treated during the year was 873, and the average number treated daily was 115·7. There have been 22 births and 137 deaths in the hospital. The expenses for the year amounted to $39,647.73. On the following day occurred the annual meeting of the Board of Directors. They adopted the following resolution:

Resolved, That in recognition of the generosity of Dr. Henry Bronson, in contributing to the funds of the hospital, and in further commendation of the services of his son, Dr. S. H. Bronson, ward No. 1, west, be named the Bronson ward.

The medical board was re-elected without change.

The Death of Dr. James Owens Smith, one of the veterans of the New York Profession, took place at his late residence, No. 81 Clinton Place, on Friday, January 30th. Dr. Smith was a native of Greene County, but came to this city early in life, and took his medical degree at the College of Physicians and Surgeons in 1825. He was in his eighty-third year at the time of his death, but until within a very few years he had continued in an active family practice. The early part of his professional career was spent in the Republic of Colombia, where he occupied an official position and acquitted himself with great credit. He was a member of the Medical Society of the County of New York, of the Academy of Medicine, of the Physicians' Mutual Aid Association, and of the Society for the Relief of the Widows and Orphans of Medical Men. He was much esteemed by his professional brethren and by his patients. He died a bachelor.

The Death of Dr. E. S. Gaillard.—We regret to learn that Dr. Gaillard, the accomplished editor of "Gaillard's Medical Journal," died on Monday, the 2d inst. Lack of space prevents our giving an obituary notice of the deceased this week.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 25, 1885, to January 31, 1885:*

Promotions.

Summers, John E., Lieutenant-Colonel and Surgeon, to be Surgeon, with the rank of Colonel, January 9, 1885.

Smith, Joseph R., Major and Surgeon, to be Surgeon, with the rank of Lieutenant-Colonel, January 9, 1885.

Koerper, Egon A., Captain and Assistant Surgeon, to be Surgeon, with the rank of Major, January 9, 1885.

Appointment.

Raymond, Henry I., to be Assistant Surgeon, with the rank of First Lieutenant, January 12, 1885.

Webster, Warren, Major and Surgeon. Granted leave of absence for one year on surgeon's certificate of disability. S. O. 20, A. G. O., January 24, 1885.

Taylor, B. D., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect between March 15th and April 1, 1885, with permission to leave department limits. S. O. 10, Department of Texas, January 26, 1885.

Kean, J. R., First Lieutenant and Assistant Surgeon. Ordered for duty in Department of the Missouri. S. O. 23, A. G. O., January 28, 1885.

Society Meetings for the Coming Week:

Monday, *February 9th:* New York Academy of Sciences (Section in Chemistry and Technology); New York Ophthalmological Society (private); New York Medico-Historical Society (anniversary—private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *February 10th:* New York Surgical Society; New York Medical Union (private); Medical Society of the County of Rensselaer, N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private).

Wednesday, *February 11th:* New York Pathological Society; American Microscopical Society of the City of New York; New York Medico-Legal Society; Medical Society of the County of Cayuga, N. Y.; Franklin District, Mass., Medical Society (Greenfield); Pittsfield, Mass., Medical Association (private).

Thursday, *February 12th:* New York Laryngological Society (private); Society of Medical Jurisprudence and State Medicine, New York; Harlem Medical Association of the City of New York; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private).

Friday, *February 13th:* Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *February 14th:* Obstetrical Society of Boston (private).

Letters to the Editor.

TRISMUS NASCENTIUM AND DEPRESSION OF THE OCCIPITAL BONE.

New York, *January 12, 1885.*

To the Editor of the New York Medical Journal:

Sir: In answer to Dr. J. F. Hartigan's letter, in the "Journal" of January 3d, permit me to say that I presented the case to the society, and asked Dr. S. M. Roberts to make some remarks upon it. Through some error, his remarks were not published with the proceedings.

A more complete history of the case will enable us to judge whether it is one of trismus nascentium (trismoid), due to depression of the occipital bone, or a case of simple convulsive movements, due to disorder of the gastro-intestinal tract, in a neurotic child. The father is healthy. The mother, aged twenty-four, has been married three years, and gives a history of epilepsy from the time she was six years old until her second child was born, in July, 1883. When she was nineteen years old she had severe sunstroke, and, as a result, was confined in an insane asylum three months. Her first child was born prematurely. It had hydrocephalus and spina bifida, and died in a convulsion when it was twenty-four hours old. Her second child was healthy at birth, but died in four weeks from gastro-intestinal trouble, being bottle-fed. Her third child—this child—was born September 30, 1884, before the physician's arrival. It was fairly well-developed, and the nurse, while washing it, noticed rolling of the eyes and clenching of the hands. It nursed for two weeks and did well, gaining flesh and strength, although the convulsive movements continued. It was then given the bottle, as the mother had a "broken breast." From this time it had vomiting and diarrhœa with much straining, but the passages were not dysenteric. It lost flesh, and the convulsive movements increased until it came under my observation, November 25th. It was poorly nourished, with its belly prominent and hard, its bowels constipated, and its fontanelle depressed, and it was constantly rolling its eyes and having clonic muscular contractions of the extremities only. Its diet was regulated, and it was given a laxative. There was some improvement, when, on December 1st, after vomiting and diarrhœa, it had a general convulsion, lasting from five to ten minutes—from the mother's account, probably a simple convulsion.

Remembering Dr. Hartigan's article, I examined the head, and found marked depression of the occipital bone, with overlapping of the parietals, greatest on the left side, the parietals also overlapping the frontals. The frontal bones were separated throughout their whole extent, a quarter of an inch at the narrowest place. The treatment was then directed almost entirely to position. It was difficult to carry out, as the child would invariably turn its head after being placed on its side, and I could not see that it made any difference with its convulsive movements whether it lay on its side or on its back. It remained in about the same condition until it was presented before the society, December 6th. Dr. Roberts held the child up with its occiput resting on his hand, without producing any change in its condition, except that it was more quiet and comfortable while so held. Since that time, treatment has been directed entirely to its digestive organs, there has been a decided improvement in its general condition, and the convulsive movements have almost entirely ceased.

If the symptoms were due to occipital depression, why did the child not develop trismus? There was (and is) deficient ossification, the bones being loosely attached by their commissures, and displacement being easily detected. In these cases, according to Dr. Hartigan, "the symptoms occur sooner, are more aggravated, the majority dying in a few hours." But the doctor says this is a case of "trismoid." I think the term an unfortunate one. There is certainly nothing *like* trismus in this case, and, of Dr. Hartigan's six patients with trismoid reported as having recovered, but one had any symptoms *like* trismus. Dr. Hartigan thinks that trismus nascentium and tetanus in the adult are not identical, and, from reported cases of the former that I have been able to consult, I think he is right. In very many of them no mention is made of the muscles of the jaw being affected, or of the spasms being tonic in character, and they apparently are cases of simple convulsions.

H. G. Lyttle, M. D.

Proceedings of Societies.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Seventy-ninth Annual Meeting, held in Albany, Tuesday, Wednesday, and Thursday, February 3, 4, and 5, 1885.

The President, Dr. B. F. Sherman, of Ogdensburg, in the Chair.

Tuesday's Proceedings.

The morning session was called to order at 10 a. m., and the proceedings were opened with a prayer by the Rev. Dr. J. L. Reese, of Albany.

The President's Address of Welcome was then read. I alluded to the absence of a number of those who had been accustomed to attend the meetings, and expressed the speaker's sense of the honor conferred upon him in his election to the office of president. The hope was expressed that a better place might be provided for the meetings in the future, and it was intimated that a hall in the Capitol might justly be placed at the disposal of the society for three days in the year. A more systematic management of the meetings was recommended—either by prolonging the meeting by an additional day, or by recourse to work in sections. Action should be taken with reference to the coming meeting of the International Medical Congress. A communication had been received from the Medical Society of the State of New Jersey that called for notice at once—presenting a proposed curriculum for students. Such alteration of the By-laws was recommended as would do away with the president's annual address, so that the time now given to it might be available for scientific work. The address closed with a feeling reference to the loss of members by death during the year. On motion, the address was referred to a committee of three, to be appointed by the chair.

A Communication from the Medical Society of the County of Erie was read, embodying resolutions recommending that efforts be made to secure the legal establishment of a State examining board, to be composed of persons not connected with any medical college. On motion, the communication was received and placed on file.

A Communication from the Medical Society of the County of New York was presented, embracing memorial notices of deceased members, and recommendations for certain changes in the By-laws.

A Communication from the Medical Society of the State of Nebraska was read, presenting resolutions regarding the machinery by which various medical societies should communicate with each other. The purport of the resolutions was not very clear, and, on motion, the communication was referred to a special committee for consideration and report.

An Honorary Member, Dr. Henry I. Bowditch, of Boston, was introduced and invited to a seat by the president's side.

A Case of Acute Pelvic Abscess, with Remarks.—Dr. W. W. Potter, of Buffalo, read a paper with this title. The case was one of a large non-puerperal collection of fœtid pus behind the uterus, of rapid formation and accompanied with marked constitutional disturbance. The aspirator was employed when fluctuation was well marked, with result of complete relief from pain, but the patient's general condition was still precarious. Various antiseptic injections having been used with little or no result, an iodoform emulsion was introduced into the abscess cavity, after the method used by Dr. David Prince, of Illinois, and with the speedy occurrence of improvement. The patient made a good recovery. Before the attack came on, the patient had been taking cotton-root tea in large quantities, by the advice of an irregular practitioner who had diagnosticated ovarian trouble; and it was a question if this had not had something to do with causing the inflammation. The author referred to the frequency and importance of pelvic cellulitis, and credited Emmet with having done a great service to gynæcology by emphasizing the leading part played by the affection in connection with pelvic disease. As to treatment, the author advocated the radical procedure of prompt evacuation, characterizing it as "the treatment of to-day." It was only by the vagina that pus could safely escape by spontaneous opening, but there was nothing to assure us that the abscess would not break in some other direction if there was no interference with it. The necessity of antiseptic injections into the cavity was insisted upon, and they should be given by the physician himself.

Dr. W. Gill Wylie, of New York, thought that the abscess must have been due either to an hæmatocele or to the access of septic material from the oviduct. He thought, too, that it was not the cellular tissue that was the seat of the collection, but the peritoneal cavity. He would prefer a trocar and cannula, with subsequent dilatation, to a knife for opening such a collection. Caution should be observed in washing out such a cavity with so strong a solution of bichloride of mercury as a 1–3,000 solution. Many pelvic abscesses, especially those of the cellular tissue, were quite as apt to point elsewhere as in the vagina, and in such cases laparotomy, with proper precautions, seemed to him the proper procedure, with removal of the oviducts.

Dr. W. S. Ely, of Rochester, reported a case of what might be termed "latent pelvic abscess," in a girl of sixteen years. The collection was large when attention was first directed to the abdomen. A large curved trocar was passed into the abdomen, below the umbilicus, and out through the posterior vault of the vagina, and through the cannula a drainage-tube was passed. This "through-drainage" was speedily followed by recovery.

Dr. BOWDITCH related a case of pelvic abscess in a child two years of age, that had been treated like Dr. Ely's case, except that a re-accumulation of the pus led to incision and washing out of the abdominal cavity, with the most favorable result. We were still too much afraid of opening the abdomen, as, twenty years ago, we were too much afraid of opening the chest.

Dr. BAKER, of Lockport, wished to emphasize the efficiency of hot douching at the outset.

Dr. POTTER remarked that the latter part of his paper, the reading of which he had had to forego, under the rules, contained a consideration of the main points that had been referred to by Dr. Wylie and the other speakers, upon which he was in substantial agreement with them.

The Treatment of Granular Lids.—Dr. DAVID WEBSTER, of New York, read a paper designed to furnish general practitioners with hints by which they could treat this condition themselves instead of turning them over to specialists. He referred to the use of jequirity. It was not without danger, but was reasonably safe if used with the following precautions: 1. Use it only in cases accompanied with decided pannus. 2. Use a solution no stronger than 1 to 400. 3. Apply it only once a day. 4. Stop its use as soon as the peculiar inflammation shows itself.

Dr. D. B. ST. JOHN ROOSA, of New York, speaking from a considerable experience with jequirity, could add whatever confirmation of Dr. Webster's remarks was needed.

Dr. T. R. POOLEY, of New York, thought the drug was one of those that had been given up as too dangerous for general use.

The Report of the Committee on Legislation was read by Dr. DANIEL LEWIS, of New York, setting forth the course taken by the committee with regard to the bills reported last year, and recounting various attempts that had been made by bogus colleges to rehabilitate themselves with the authority to grant diplomas, together with the committee's efforts to thwart them. These efforts had been successful in the main. The report recommended an attempt to procure legal authority for the county societies to hold property to the amount of $50,000 each, instead of $1,000, as at present, and limiting the tax upon individual members to $5 annually. On motion, the report was accepted.

Dr. H. G. PIFFARD, of New York, moved the adoption of the recommendation in regard to the property allowance of county societies. Seconded by Dr. F. R. STURGIS, of New York, who then moved an amendment making the amount $100,000 for New York County. Carried. The original motion, as amended, was then carried.

The Report of the Special Committee on a Medical Examiners Bill was read by Dr. PIFFARD, who submitted a draft of a bill decided upon by the majority of the committee. It provided for two boards—one for the northern, and the other for the southern part of the State; each to consist of six persons (an examiner in medicine, one in surgery, one in obstetrics, and three in therapeutics)—each person examined to be allowed to choose his examiner in therapeutics; no member of a board to hold office more than one year; each board to consist of two members of a State medical society, two members of a college faculty, and two persons who are members of neither a State society nor a college faculty.

Dr. PIFFARD moved that the report be made the special order for this evening. Dr. F. P. FOSTER, of New York, moved an amendment, ordering that the report be printed and furnished to each member of the society, but not acted on until next year. Seconded by Dr. STURGIS. Lost. Dr. PIFFARD's motion was then put and carried.

The discussion on Dr. Webster's paper being then resumed, Dr. H. KNAPP, of New York, expressed the opinion that the use of jequirity was so dangerous as to be legitimate only in exceptional cases, practically those of patients who were almost blind. In three instances, in his experience, its action had been so violent as to make him despair of preserving the patients' sight. Others had met with like unfortunate results. As a rule, he preferred the well-known treatment with the crystal of sulphate of copper—there should be no cauterization, but sufficient action to bring about absorption. It should be applied daily, the lids being fully everted.

Dr. WEBSTER thought the occasional loss of an eye from the use of jequirity should not lead us to abandon it altogether.

The Report of the Committee on Experimental Medicine was read by Dr. JOHN G. CURTIS, of New York, recommending the passage of a resolution reiterating the conviction of the society that vivisection was a proper mode of advancing medicine.

The Report of the Committee on Hygiene was read by Dr. E. V. STODDARD, of Rochester. There had been no special epidemic prevalence of disease of any sort within the State. The report expressed the hope that the various sanitary boards in the State would be able to secure efficient sanitation in advance of the advent of cholera. The report was received and placed on file.

The Report of the Committee on Prize Essays, read by Dr. POTTER, showed that no essay had been offered during the year.

Removal of the Cataractous Lens in its Capsule was the title of the next paper, read by Dr. ROOSA, who thought that the procedure, if it was free from danger, offered the best prospect of relieving senile cataract. Most of the methods that had thus far been employed, however, were open to objection. In twenty-four cases he had performed an operation that seemed to be an improvement—after a flap incision of the cornea, the back of the instrument (von Graefe's knife) was carried back in such a manner as to rupture the zonula, and the lens was then dislocated by pressure upon the cornea with two little rubber spoons. In two or three cases he had failed to remove the lens without opening the capsule, but in most instances the results had been satisfactory. The manipulation was much facilitated by the use of cocaine.

Dr. KNAPP admitted that the result was excellent in cases that did well, but there was so much trouble from prolapse of the iris in the operation itself, and there were so many drawbacks in the after-treatment, that many operators had been obliged to give it up. He could not bring himself to adopt it at present.

Dr. WEBSTER had formerly been prejudiced against the operation, but observation of Dr. Roosa's practice had led him to modify his views.

Dr. ROOSA explained that his operation was not like De Wecker's or Pagenstecher's, but that its peculiarity lay in systematically dislocating the lens before closing the operation. He wished to be cautious in his conclusions, and would not lay too much stress upon the teachings of twenty-four cases; further experience was needed.

The Committee on Nominations.—At the afternoon session the committee was announced by the President, as follows:

Dr. S. O. VAN DER POEL, of New York; Dr. E. F. BRUSH, of Mt. Vernon; Dr. HERMAN BENDELL, of Albany; Dr. E. BEACH, of Gloversville; Dr. I. N. GOFF, of Cazenovia; Dr. I. C. EDSON, of Windsor; Dr. FRANCIS M. HAMLIN, of Auburn; Dr. F. I. BAKER, of Lockport; and Dr. W. W. POTTER, of Buffalo.

Anatomical Geometry and Toponymy was the title of a paper read by Dr. M. J. ROBERTS, of New York. It dealt with precise methods of measuring deformities and recording such measurements, and with instruments of precision for carrying out those methods. Instruments of this sort, devised by the author, were shown, and their uses explained—including the articular goniometer, the adjustable protractor, and the epipedometer. The paper was further illustrated by a number of diagrams.

Dr. A. M. Phelps, of Chateaugay, could see the usefulness of the epipedometer, but did not feel sure that the protractor had any special advantage over simpler means of measuring tilting of the pelvis.

Dr. Roberts remarked that the protractor had been devised with special reference to its use while the patient was trying to assume the normal attitude.

Some Observations on the Use of Hydrochlorate of Cocaine was the title of the next paper, by Dr. T. R. Pooley, of New York, which embodied the author's personal experience with the drug, which had been wholly confined to ophthalmic practice, and almost entirely to the use of the drug by instillation upon the conjunctiva and by injection into the lachrymal sac. He had found Dr. Bradford's method of "rapid cocainization" by the application of a drop of an eight-per-cent. solution every minute (recently described in the "Boston Medical and Surgical Journal") very satisfactory. A general anæsthetic was to be preferred in the case of children, for the local anæsthesia would not do away with their restlessness. Had not seen cases of severe pain coming on some hours after its use, but he had witnessed marked constitutional effects in one or two instances. He had not found the drug so useful in the treatment of eye diseases as in operations, but, as had been the case with others, he had found it of advantage as a mydriatic when associated with atropine. Like Dr. W. O. Moore, he had also succeeded in warding off attacks of migraine by instillations of cocaine into the eye in cases where the trouble began with pain in one or both eyes.

Dr. Knapp thought it quite possible that stimulation of the sympathetic nerves was at the bottom of the whole physiological action of cocaine, by causing contraction of the blood-vessels; although, as Dr. Halstead and Dr. Hall had shown, in the latter gentleman's letter to the "New York Medical Journal," there was doubtless also a paralyzing action upon sensory nerves. The introduction of the remedy was the medical event of last year. Instances of its usefulness in a wide range of operations were recounted, but its great field was in operations for cataract.

Dr. Webster had used cocaine in one case of acute glaucoma, without any apparent effect in blanching the eye or lessening the pain. He had found that where there was diffuse inflammation of the conjunctiva the anæsthetic effect was much hindered. He had about concluded not to do any more iridectomies under cocaine anæsthesia, unless the lens was opaque, for fear of unwittingly wounding the anterior wall of the lens-capsule, from the sudden movement given to the eye when the iris was seized, at which moment pain was felt for the first time.

Dr. Samuel Sherwell, of Brooklyn, had used the drug in operations upon the larynx and the pharynx, always with the result of producing superficial anæsthesia, but often with only partial success. His experience had been about the same in operations upon the anus.

A Delegate from the Massachusetts Medical Society, Dr. Paddock, was introduced. He joined in the discussion on cocaine, mentioning a number of various conditions in which he had found it of advantage.

Dr. Pooley deprecated the practice of enucleation of the globe under cocaine anæsthesia, for injections into the orbital tissue were dangerous and the moral effect of a capital operation was such as to distract the operator unless a general anæsthetic is used.

Peroxide of Hydrogen.—Dr. S. S. Wallian, of Bloomingdale, read a paper on this subject. The leading physical and chemical properties of the substance were mentioned. It was said that it might take the place of ozone for many purposes, as a germicide, etc., while it was perfectly harmless in the form in which it was used in medicine. It acted by parting with a portion of its oxygen, which, being no doubt endowed with the peculiar activity incident to the nascent state, combined directly with septic substances, and thus put a stop to the putrefactive process. The author then gave a summary of its therapeutical applications, with special reference to its use in the treatment of diphtheria. Cases of carbuncle, sloughing ulcer, and septic infection (one of each) were then alluded to as having occurred in the author's practice and having been treated with the peroxide with brilliant results.

A Case of Cancer of the Liver, characterized by a series of low temperatures, was then related in a paper by Dr. W. S. Ely, of Rochester. An uncommonly full record of temperature observations had been kept. A great number of them showed a subnormal temperature—the lowest being 91° F. There were no signs of collapse at any time, and there was no correspondence between the state of the temperature and that of the pulse, but the patient felt cold to the touch. There could be no error about the observations, as they had all been made by an experienced nurse, with a Hicks's thermometer accompanied by a certificate issued from the Yale Observatory. The inferences were, that subnormal temperatures were not always so dangerous as was generally supposed, and that thermometers ought to be graduated lower than was commonly the case.

Dr. H. R. Hopkins, of Buffalo, asked if a record had been kept of the food taken and of the urine passed.

Dr. Ely replied that there was such a record, very minutely kept, but that it showed nothing important. The temperature had been taken in the mouth in every instance.

Dr. Stoddard had taken considerable interest in continuous low temperatures during chronic diseases, for he had found them much more common than was usually supposed.

Tubal Pregnancy.—Dr. T. H. Squire, of Elmira, read an account of a case of tubal pregnancy in which the sac ruptured, peritonitis followed, and the fœtus was subsequently felt in Douglas's pouch, together with a large quantity of fœtid blood. The collection then burst into the rectum, with marked relief for a time, but subsequently blood-poisoning showed itself, and laparotomy was performed. The effusion was found walled in above by a false diaphragm of lymphy exudate, and the operation was abandoned. Nevertheless, the patient at once began to improve, but, some months later, she began to sink again, and died nine months after the rupture of the sac. At the autopsy, an abscess containing about twelve ounces of pus was found in the right broad ligament.

Does Quinine abort Pneumonia?—Dr. L. Emmett Holt, of New York, read a paper with this title. [It will be published in full hereafter.]

Dr. A. N. Bell, of Brooklyn, spoke of the malarial origin of cases of pneumonia that he had treated, particularly among children, and in the swamps of the Chickahominy.

Dr. A. L. Loomis, of New York, thought the question really was, whether the passive hyperæmia of malarial disease was identical with that of the first stage of pneumonia. Passive hyperæmia, especially in children, gave rise to physical signs that might easily lead to the case being taken for pneumonia; but he did not think such cases of engorgement would go on to the development of pneumonia, except under the influence of something else than malaria. It was impossible to stop the course of a lobar pneumonia—a disease which, he thought, was truly infectious. Was the pneumonia of to-day different from that of fifteen or twenty years ago? In his opinion, there had been no more change in the character of pneumonia than in that of a number of other diseases, such as diphtheria and cerebro-spinal fever.

Dr. Wallian's experience had been, in army practice, that patients with a congestive malarial chill either died or went on to a furious pneumonia ending in abscess.

Dr. Starr, of Rochester, was surprised to hear it stated, as Dr. Loomis had stated, that bronchial breathing could not come on during the first twelve hours after the chill of pneumonia.

Dr. Loomis explained that he had meant to say that it could not come on within the first twelve hours after the beginning of the preliminary changes in the lung—not within that length of time after the chill. In such cases the first tissue changes preceded the chill.

The Medical Examiners Bill came up as the special order at the evening session, and, on motion, was read the second time. The full text of the bill, as presented by the Committee on Legislation, was as follows:

"An Act to establish a Northern and Southern Board of Medical Examiners of the State of New York, to regulate the Licensing of Practitioners of Physic and Surgery, and to further regulate the Practice of Physic and Surgery.

"*The People of the State of New York, Represented in Senate and Assembly, do enact as follows:*

"Section 1. On and after the first day of July, 1886, there shall be and continue to be two Boards of Medical Examiners of the State of New York, of which one shall be called the Northern Board of Medical Examiners for the State of New York, and the other shall be called the Southern Board of Medical Examiners for the State of New York. Each of said boards shall consist of six members.

"Sec. 2. On or before the first day of May, in the year 1886, and in every following year, the Governor shall appoint the individual members of each of said boards, whose term of office shall begin on July 1st of the same year. Every examiner shall hold office for one year from the first day of July, on which his term shall begin, to the thirtieth day of June next following, both inclusive. In case of vacancy occurring on either board, the Governor shall, within thirty days from the time of such occurrence, appoint an examiner duly qualified to fill such vacancy.

"Sec. 3. Every examiner shall receive as his salary one-sixth part of the surplus of fees received by the board upon which he shall be appointed, in excess of its necessary expenses; providing that such salary shall not exceed the sum of six hundred dollars, except in the case of the secretary and treasurer, who shall receive an additional salary, to be fixed by the board, and shall give a bond in the sum of one thousand dollars, conditioned on the faithful administration of, and accounting for, the sums paid into his hands. All fees received by either of said boards in excess of its necessary expenses, which must be accounted for under oath, and of the salaries herein provided for, shall be paid into the treasury of this State.

"Sec. 4. The qualifications of every member of each of said boards shall be the same as those prescribed in Section 5 of this Act, provided that no person shall be a member of the Southern Board who shall not be, and continue to be during his term of office, a resident of one of the following counties of this State, viz.: Suffolk, Queens, Kings, Richmond, New York, Westchester, Rockland, Orange, Putnam, Sullivan, Ulster, and Dutchess; and no person shall be a member of the Northern Board who shall not be a resident of one of the other counties of this State not hereinbefore enumerated.

"Sec. 5. Each board of examiners shall be thus constituted: Every member thereof shall be a legally authorized practitioner of physic and surgery under the laws of this State. Two of its members shall be also members of the Medical Society of the State of New York, and shall neither be when appointed, nor become while serving on said board, officers of instruction or government of any incorporated medical school or college. Two of the said members shall be professors in duly incorporated medical colleges of this State, and shall neither be nor become, during their term of office, members of the Medical Society of the State of New York; providing, however, that no two medical examiners shall be at the same time officers of instruction or government in the same medical college. The remaining two members of said board shall neither be nor become, during their term of service, either members of the Medical Society of the State of New York, or officers of instruction or government in any incorporated medical school or college. No person shall be appointed as a member of either board who has already served one term as a medical examiner, until at least three years shall have elapsed since the expiration of his last term of service as such officer. Every examiner shall take the oath prescribed in Article XII of the Constitution of the State of New York.

"Sec. 6. Of the six members of each board, the one whose name shall be alphabetically first on the list shall be the temporary chairman of said board until a president thereof shall be duly chosen. It shall be the duty of the temporary chairman to call by notice in writing a meeting of his board for the purpose of organization, to be held at an hour and place to be specified therein. Said notice shall be inclosed in a sealed envelope, and addressed to each member of said board and deposited in the mail at least two weeks before the second Monday in August, on which day the said first meeting shall be called. All meetings of the Northern Board shall be held either at Albany, Syracuse, or Buffalo, and all meetings of the Southern Board shall be held at New York or Brooklyn. Each board shall meet at least twice in every year; one meeting being held in October and one in June, to examine candidates for license to practice physic and surgery. At every meeting of either board four members shall constitute a quorum.

"Sec. 7. At the first meeting of the boards, pursuant to the calls of their respective temporary chairman, each board shall proceed to organize by electing one of the members as president, and another as secretary and treasurer. At the same meeting, by vote thereof, each member of the board shall be assigned to duty as an examiner in one of the following subjects: First, the principles and practice of medicine; second, the principles and practice of surgery; third, midwifery; fourth, therapeutics. These assignments shall be so made that there shall be one examiner in each of the three subjects first named, and three examiners in the subject of therapeutics. The assignment of each member shall hold good during his term of service on the board: providing, that whenever there shall fail to be an attendance of all the members of the board at any meeting, such temporary assignment may be made by a vote of those present as shall insure examinations in each and all of the said four subjects.

"Sec. 8. On and after the first day of November, 1886, no person, not theretofore under the laws of the State of New York then in force a legally authorized practitioner thereof, shall practice physic or surgery in this State, or be admitted to so practice, unless he shall receive from one of the above-named boards, after examination as herein provided, a license to practice as a physician or surgeon, and unless he shall have registered, as hereinafter provided in Section 14 of this Act.

"Sec. 9. On and after the first day of July, 1886, any person, not theretofore being lawfully authorized to practice physic and surgery in this State, who shall desire to enter upon such practice, may make, upon the payment of fifteen dollars into the treasury of said board, written application to the secretary of either of said boards of medical examiners for a license. Such applicant must furnish at the same time proof satisfactory to the board that he is more than twenty-one years of age, that he is of good moral character, that he has received either a diploma from some legally incorporated medical college of the United States conferring upon him the degree of doctor of medicine, or a diploma or license conferring the full right to practice all branches of physic and surgery in European countries, and that he has both studied medicine for three years, and attended two courses of lectures in some legally incorporated medical college or colleges prior to the granting to him of his said diploma or foreign license: provided, that two courses of lectures, both of which shall be either begun or completed within the same calendar year, shall not satisfy the above requirement.

"Sec. 10. Upon complying with the provisions of Section 9 of this Act, the said applicant shall be admitted to an examination as to his fitness to receive a license to practice physic and surgery in this State. The examination of all such applicants shall be made by written questions upon the four subjects enumerated in Section 7 of this Act, and every candidate may elect by which of the three examiners in therapeutics he shall be examined.

"Sec. 11. At a session of the board to be held without unnecessary delay after the close of every examination of candidates for licenses, each examiner shall submit the written questions propounded by him, and the answers given thereto by each applicant, together with the said examiner's written opinion as to the qualification and merits of each applicant, and as to his or her degree of proficiency in the subject or subjects assigned to the said examiner; every opinion shall be denominated therein as 'favorable' or 'unfavorable' by the examiner rendering the same. The secretary of the board holding such examination shall transmit to the Secretary of State all said questions, answers, and opinions, together with all the reports and proceedings of the board, and the said papers shall be for ever part of the public records in this State.

"Sec. 12. Every applicant as to whom, after his or her examination as hereinabove provided, opinion denominated as 'favorable' shall have been rendered in at least three out of four subjects above mentioned, shall receive, upon the further payment of the sum of five dollars into the treasury of the examining board, a license entitling the person to whom it is granted, upon his or her registration as provided for in section fourteen in this Act, to practice physic and surgery in the State of New York.

"Sec. 13. At a meeting of a board of medical examiners created by this act, the presiding officer for the time being shall be, and he hereby is authorized to administer oaths and take solemn affirmations. Candidates for examination, when required so to do, must verify the truth of the statement contained in their applications by oath or solemn affirmation.

"Sec. 14. On and after the first day of July, 1886, no person, not theretofore a duly authorized practitioner thereof in this State under the laws then in force, shall practice, or be admitted to practice, physic and surgery in the State of New York unless such person, after having been examined and licensed to practice as herein provided, shall register his or her name in the office of the Clerk of the County wherein he or she intends to practice or practices. Such registry shall be kept by said clerk in a book open to public inspection, and shall include, beside the name of the licentiate, a statement of his or her residence and birthplace, the dates of his or her birth and diploma or European license, if any, produced before the board of examiners granting its license to said person, the date of the license to practice within this State and the official title of the licensing board. At the same time the person so registering shall exhibit his last-named license to the clerk, and subscribe and verify, by oath or affirmation, before some person duly qualified to administer oaths under the laws of this State, an affidavit containing a plain statement of the aforesaid facts, and shall file said affidavit with the clerk, who shall receive from the person so registering a fee of one dollar. Nothing in this section shall be so construed as to prohibit medical consultation in the State between legally qualified and registered practitioners of this and other States.

"Sec. 15. Any person who shall willfully swear falsely to any statement in any affidavit made under the requirements of this Act shall be deemed guilty of a felony, and shall be subject, on conviction, to punishment for perjury. And any person who shall violate any of the other provisions of this Act, or who shall practice physic or surgery in this State under cover of a diploma unlawfully issued or illegally obtained, or who shall practice or publicly profess to practice physic or surgery in the State after the first day of July, 1886, neither having been theretofore legally authorized by the laws then in force nor being legally authorized under this Act to practice said profession, shall be guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than two hundred and fifty dollars ($250) nor more than five hundred dollars ($500) for the first offense, and for each subsequent offense by a fine as aforesaid, and by imprisonment for not less than thirty days and not more than six months. The fine when collected shall be paid one half to the person or corporation making the complaint and one half into the treasury of the county where the conviction shall be had.

"Sec. 16. Every person shall be deemed to practice physic or surgery within the meaning and for the purposes of this Act who shall advertise himself or herself as a physician or surgeon, or both, or who shall make use of a door-plate or other sign bearing the word 'doctor' or 'M. D.,' or who shall couple with his or her name any combination of letters indicating that he or she is a doctor of medicine or practitioner of surgery, or both, or who shall use any means or device adapted to create the belief in the minds of members of the community that the person advertising, holding out, or using such means and devices, is a person legally authorized to practice physic and surgery. And upon competent evidence being offered of any such advertising, holding out, or use of such means and devices, the burden of proof shall be upon the person charged with violating the provisions of this Act, and it shall not be necessary, in order to obtain a conviction, to prove the receipt of money by a person so charged as a fee or return for his or her services Nothing in this section shall be construed to prevent any person upon whom a professional title has been conferred by a Government or incorporated medical college from using said degree as a social designation or for any purpose disconnected with the solicitation or transaction of professional employment.

"Sec. 17. Nothing in this Act shall apply to commissioned medical officers serving in the army or navy of the United States, or in the United States Marine-Hospital Service, or to any one while actually serving as a member of the resident medical staff of any legally incorporated hospital, or to any dentist exclusively engaged in the practice of dentistry, or to any physician or surgeon being a resident of a neighboring State and duly authorized under the laws thereof to practice physic and surgery therein, whose regular practice extends into the limit of this State; providing that such practitioner shall not open an office or appoint a place to meet patients or receive calls within the limits of the State of New York.

"Sec. 18. All Acts and parts of Acts inconsistent with this Act are hereby repealed.

"Sec. 19. This Act shall take effect immediately."

It was decided to take up the consideration of the bill by sections, and two hours and a half were taken up with various amendments to section 1 and section 2. At the end of that time, all the action taken was rescinded on a motion to reconsider, and Dr. A. Jacobi, of New York, obtained leave to read another bill, which, with a few modifications, was the bill introduced into the Legislature by Mr. Heath, in January, and, in the main, similar to the bill reported by the Committee on Legislation last year. Having read the bill, Dr. Jacobi moved its adoption.

On motion of Dr. S. O. Van der Poel, of New York, the bill was ordered to be printed, and was made the special order for the Wednesday afternoon session.

Wednesday's Proceedings.

As there was no clergyman present at the opening of the morning session, by request of the president, Dr. Alfred C. Post, of New York, made a prayer. The minutes of Tuesday's proceedings were read by the secretary. The treasurer then read his annual report, which was received and referred to an auditing committee. The treasurer also reported the condition of the Merritt H. Cash Prize Fund. The special committee on the president's inaugural address reported adversely on the proposition to divide the meetings of the society into sections, and in favor of an early nomination of the Business Committee, with a view to their relieving the president of the work of procuring papers to be read, etc., also recommending a course to be pursued in regard to the representation of the society at the Ninth International Medical Congress. The report was accepted and adopted.

Senile Hypertrophy of the Prostate was the title of a paper read by Dr. Post. The paper dealt with the subject in a systematic manner, so as scarcely to admit of a synopsis. The author showed a special syringe, of his own device, for attaching to a catheter in the procedure of washing out the bladder. It was so constructed as to admit of repair readily without its being sent to an instrument-maker, and of being attached to any ordinary-sized catheter. Stress was laid on the advantage of using large catheters in cases of prostatic disease, for the reasons that are commonly given. In the use of very flexible rubber catheters, it was sometimes useful to stiffen the distal part of the instrument by coating it with collodion. In very aggravated cases of cystitis, he had found much relief produced by applying the actual cautery to the pubic region. He was inclined to favor a resort to crushing or other operative procedures in some cases of very difficult catheterization, but the opinions of surgeons with regard to these measures were diverse.

Dr. Squires wished to see the silver catheter pass out of use.

Dr. A. Vanderveer, of Albany, spoke highly of the use of Bethesda Water in cases of phosphatic deposit, and of corn-silk in those of painful cystitis. Perineal cystotomy, perhaps in the form of Thompson's operation, ought to supersede supra-pubic puncture.

Dr. Knapp alluded to the excellent effects of cocaine applied to the deep urethra.

A Demonstration of the Electric Light for Medical Purposes was made by Dr. Lucien Howe, of Buffalo. The battery was of zinc and carbon elements connected for quantity, and the light was of rather more than six-candle power. The one shown was attached to a head-band. The cost of the apparatus was about $22. It was of Trouvé's make.

The Opium Habit was the title of the next paper, by Dr. Hamlin, of Auburn. Rapid reduction of the dose was the method of treatment advised, associated with supporting and anodyne measures.

A Method of cultivating Bacteria was demonstrated by Dr. William Hailes, Jr., of Albany, being in the main Koch's procedure, with the use of Sternberg's tubes.

Hare-Lip was the title of the next paper, read by Dr. Phelps, of Chateaugay, who described an ingenious procedure of his own whereby, in cases of single hare-lip where the fissure did not extend farther outward than midway between the middle of the lip and the angle of the mouth, the cicatrix could be brought into the median line.

The State Medical Examiners Bill came up again as the special order at the opening of the afternoon session. Dr. Jacobi gave up the floor to the Committee on Legislation. The committee then reported that it had agreed upon certain modifications of the bill it had before presented, such modifications being to the effect that there should be but one board, to consist of nine members, nominated by the Board of Regents of the University, to hold office for one year, six of them to represent this society, and the three others to represent the other incorporated State societies, in proportion to their membership, those that were to represent this society to consist of three men connected with the colleges and of three men not so connected; and, in addition, that the following section, contained in the bill brought forward by Dr. Jacobi, be incorporated in the bill:

> "All such examinations shall be conducted in writing, or orally, at the option of the board, and shall be in anatomy, physiology, histology, chemistry, pathology, therapeutics, principles and practice of medicine, hygiene, surgery, and obstetrics. Provided, that each applicant, upon receiving from the said regents an order for examination, shall receive also a confidential number or mark, which he or she shall place upon his or her examination papers in lieu of signature, so that when said papers are passed upon by the examiner the latter shall not know by what applicant said papers were prepared; that upon each day of examination all candidates shall be given the same set or sets of questions; that the examinations upon the principles and practice of medicine shall only be held after the other examinations have been made and their results recorded; that upon these two subjects three sets of questions, prepared by the representatives in said board of the Medical Society of the State of New York, the Homœopathic Medical Society of the State of New York, and the Eclectic Medical Society of the State of New York, respectively, shall be given to each applicant, and the applicant shall elect which one of the said sets of questions he or she shall answer, and that the merit of these answers shall be exclusively passed upon by those members of the board by whom the questions were prepared. It is further provided that said examination papers shall be marked upon the scale of one hundred, and that in order to secure a license it shall be necessary for the applicant to attain such an average as shall hereafter be determined and made known by the said board. At the close of every examination it shall be the duty of the said board, without unnecessary delay, to prepare and transmit to the regents of the university an official report of said examination, which shall set forth the name, age, sex, and place of residence of each applicant examined by them, together with the place and date of graduation, the date of examination, the examination number or mark, the examination average in each branch, the general average, and the result of the examination, whether successful or unsuccessful. This report shall be accompanied by the examination papers, both questions and answers, and shall be kept for reference and inspection among the public records of the university."

The committee moved the adoption of the bill as thus modified. Carried unanimously.

The Regulation of the Membership of the Society.—Dr. C. H. Porter, of Albany, introduced a resolution asking the Committee on Legislation to endeavor to procure legislation enabling the society to regulate its own membership. Carried.

Granular Lids.—Dr. W. F. Mittendorf, of New York, read a paper on this subject, in which he spoke lightly of applications of copaiba to the conjunctiva, also of the use of hydrastin.

A number of papers were then read by title.

Ligature of the Femoral Artery.—Dr. Alfred Mercer, of Syracuse, read a paper embodying the histories of two cases in which this operation was performed. Both of them were cases of injury, and one was accompanied by the formation of a traumatic aneurysm.

Dr. Post alluded to a case of ligation of the femoral in which he had controlled secondary hæmorrhage from the distal portion by bandaging and elevation of the limb.

A Lithotrity Evacuator was shown by Dr. F. N. Otis, of New York, so constructed as to prevent the regurgitation of fragments into the bladder. The mechanism was very simple and satisfactory, and it had the additional advantage that with it it was possible to inject more water into the bladder at any time during the operation. It was also so arranged that, by filling the receiver with glycerin, one was enabled to work it without obscuring the view of the subsiding fragments by forcing blood-stained water into the receiver. The working of the apparatus was demonstrated in a striking manner, ink being used in place of bloody water.

Urethral Stricture.—Dr. Otis then gave a summary of his recent experience, particularly with cases of contraction of the meatus urinarius, being the leading points of a paper which he would furnish for the volume of "Transactions," and embodying observations supplementary to and confirmatory of certain propositions that he had submitted to the society in 1873.

Dr. Post agreed entirely with Dr. Otis's views.

Dr. Vanderveer expressed himself to the same effect.

The special committee to consider the communication from the Nebraska State Medical Society reported in favor of acceding to the Nebraska society's request.

The Collective Investigation of Disease.—Dr. Jacobi, a member of the American committee on this subject of the International Medical Congress, announced that cards would soon be sent around containing certain simple questions in regard to rickets.

Maternal Nursing and Artificial Feeding, and their Relation to Infant Mortality was the title of the next paper, by Dr. J. E. Winters, of New York. It consisted largely of statistics tending to support the common view of the great desirability of mothers nursing their own children, and in violent opposition to the employment of wet-nurses, whom the author characterized as unmitigated evils.

Dr. Bell alluded to corroborative statistics.

Dr. Ely wished to express his dissent from some of the views that the author of the paper had stated, especially in regard to the notion of the transmission of moral qualities from nurse to nursling.

Dr. Townsend, of Albany, spoke of his unsatisfactory experience with predigested milk and various prepared foods, all of which were vastly inferior to the milk of a wet-nurse.

Dr. Jacobi thought the paper very open to criticism, chiefly from its being "sensational," at variance with the best experience, and largely founded on anecdotes.

Dr. Mittendorf, although connected with two institutions for infants, could not support Dr. Winters's views.

Dr. Winters retorted that his paper could be called "sensational" only if facts were "sensational," for he had dealt chiefly with facts.

An Illuminating Battery was shown by Dr. W. C. Jarvis, of New York, which was remarkable for the length of time (many months in his experience) for which it would continue to work without any interference. It was also cheap. It was an American invention, known as the "Foster electric cell." The elements were zinc and carbon, but the exciting solution was a secret preparation.

Dr. Goff knew of an equally good battery, and one that required no secret preparation, made in Cazenovia, N. Y.

Mr. Lawson Tait's Abdominal Surgery.—Dr. Vanderveer read a paper descriptive of Mr. Tait's operative methods, etc., together with the histories of a number of cases in which he had seen Mr. Tait perform abdominal section.

Dr. Phelps was willing to admit Mr. Tait's remarkable success, but believed in antiseptic precautions nevertheless.

Dr. Vanderveer wished to disavow any opposition to antiseptic surgery; far from that, there were many operations that he would not think of undertaking without its aid. He had merely told what he had seen of Mr. Tait's practice as a contribution to the facts bearing upon the matter.

The President's Annual Address.—At the evening session, which was held in the Assembly Chamber, at the Capitol, the president read his address, which was entitled *Medical Evidence.* Many historical events were adduced tending to show the circumspection with which a medical man should conduct himself when called upon to testify as to matters of fact, and especially as to matters of opinion. The address closed with the following quotation from a well-known author: "Let every member of the profession of medicine who would defend its claims to honor and usefulness, and win for himself a distinguished position in its ranks and in the world, prepare himself well and thoroughly to mount upon the witness-stand with a firm, elastic step, feeling an assurance that it is the most favorable and distinguished position he can occupy as a representative of his profession or of his own acquirements."

Thursday's Proceedings.

The session was opened with a prayer by Dr. Post. The communication from the Medical Society of the State of New Jersey, relative to the curriculum, was referred to a special committee, consisting of Dr. Van der Poel, Dr. J. O. Roe, of Rochester, and Dr. Phelps.

The Volume of Transactions.—On motion of Dr. Stoddard, the Committee on Publication was empowered to issue the volume in two parts, the first to consist of all except the county society lists, and the latter to be published subsequently, in pamphlet form, after the annual meetings of the county societies; and it was voted to request those societies to hold their annual meetings in January, February, or March.

Delegates to Other Societies.—On motion of the secretary, under a suspension of the By-Laws, the president and the secretary were given authority to fill vacancies in the delegations.

A Communication from the Medical Society of the County of Richmond, deploring the action of the State society in adopting the new code of ethics, was read and ordered on file.

Cholera and Quarantine.—Dr. Van der Poel gave an extemporized *résumé* of his paper on this subject. His remarks had special reference to the question of the probable efficacy of quarantine in preventing the importation of cholera. The speaker gave an interesting description of the measures that were taken on the Red Sea route of travel, under the authority of an international sanitary board, to prevent the transportation of cholera from Calcutta and Bombay; they were almost always efficient, but occasionally the lukewarmness of the British officials thwarted them, a notable instance of which was seen in the landing of a steamer's load of steerage passengers on the western shore of the Red Sea, in order to elude observation, and the consequent spread of the disease to Egypt and thence to France. As to quarantine in the old sense of the term—absolute detention and non-intercourse—that was not what sanitarians now meant when they spoke of quarantine, but the whole system of guarding against the shipment of diseased persons and infected merchandise and the management of persons, clothing, etc., when the disease broke out, so as to prevent its extension over a country. If these measures were carefully carried out, there was a great probability of our being able to stamp out the disease in case it made its appearance; but they should include detention and observation for ten days at the ports of New York, Boston, Philadelphia, Baltimore, and New Orleans. The co-operation of the Canadians could probably be counted upon, for they did not share the English view as to the uselessness of quarantine.

Remarks on the same subject were made by Dr. Bowditch, and, on motion of Dr. Ward, the following resolution was passed: "*Resolved,* That it is the sense of this society that the United States Government should, in view of the probable importation of the cholera poison during the present year, promptly take steps to enforce proper sanitary measures at foreign ports where the disease exists." On motion of Dr. W. H. Bailey, of Albany, an engrossed copy of the resolution and one of Dr. Van der Poel's remarks were ordered to be sent to the President of the United States.

Irrigation in Laparotomy.—Dr. F. S. Low, of Pulaski, explained the construction of an apparatus that he had made use of for facilitating the cleansing of the parts during the operation.

A Provisional Business Committee.—On motion of Dr. Potter, a committee, to be appointed by the president, was charged with the work of making preparations for the scientific business of the meetings, with the tacit understanding that, on the opening of the meeting, the same gentlemen should be appointed as the Business Committee. The president appointed Dr. Potter, Dr. Lewis, and Dr. Phelps as the committee.

Officers for the Ensuing Year.—In accordance with the report of the Nominating Committee, officers were elected as follows: *President*, Dr. A. Vanderveer, of Albany; *Vice-President*, Dr. A. C. Post, of New York; *Secretary*, Dr. W. M. Smith, of Syracuse; *Treasurer*, Dr. C. H. Porter, of Albany; *Censors:* Southern District, Dr. F. A. Castle, Dr. G. H. Fox, and Dr. David Webster, of New York; Eastern District, Dr. Joseph Lewi and Dr. N. L. Snow, of Albany, and Dr. LeRoy McLean, of Troy; Middle District, Dr. A. Churchill, of Utica, Dr. L. Griffin, of Binghamton, and Dr. R. Frazier, of Camden; Western District, Dr. T. Dimon, of Auburn, Dr. M. G. Kittenger, of Lockport, and Dr. D. Little, of Rochester; for the College of Medicine, Syracuse University, Dr. I. N. Goff, of Cazenovia; *Committee of Arrangements*, Dr. S. B. Ward, of Albany, Dr. W. S. Ely, of Rochester, and Dr. E. L. Partridge, of New York; *Committee on By-Laws*, Dr. W. C. Wey, of Elmira, Dr. H. G. Piffard, of New York, and Dr. W. M. Smith, of Syracuse; *Committee on Hygiene*, Dr. E. V. Stoddard, of Rochester, Dr. F. C. Curtis, of Albany, Dr. A. N. Bell, of Brooklyn, Dr. G. J. Fisher, of Sing Sing, Dr. E. Hutchinson, of Utica, Dr. W. H. Bailey, of Albany, and Dr. J. P. Creveling, of Auburn; *Committee on Legislation*, Dr. D. Lewis, of New York, Dr. S. B. Ward, of Albany, and Dr. F. R. S. Drake, of New York; *Committee on Ethics*, Dr. A. Jacobi, of New York, Dr. A. Matthewson, of Brooklyn, and Dr. J. W. Whitbeck, of Rochester; *Committee on Prize Essays*, Dr. W. W. Potter, of Buffalo, Dr. W. S. Ely, of Rochester, and Dr. H. R. Hopkins, of Buffalo; *Committee on Publication*, Dr. W. M. Smith, of Syracuse, Dr. C. H. Porter, of Albany, and Dr. A. Mercer, of Syracuse.

Permanent Members were elected as follows: First District, Dr. G. S. Hopkins, Dr. J. S. Warren, Dr. W. M. Carpenter, Dr. J. G. Curtis, and Dr. E. N. Chapman; Second District, Dr. A. M. Campbell and Dr. H. R. Winter; Third District, Dr. J. M. Bigelow and Dr. J. D. Lomax; Fourth District, Dr. C. M. Wilson and Dr. A. W. Suiter; Fifth District, Dr. G. Seymour; Sixth District, Dr. I. C. Edson and Dr. E. Allison; Seventh District, Dr. J. Gerin; Eighth District, Dr. P. Faling and Dr. H. R. Hopkins.

Honorary Members were elected as follows: Dr. J. L. Cabell, of Virginia; Dr. J. F. Whittaker, of Ohio; Dr. T. G. Wormley, of Pennsylvania; and Dr. T. S. Clouston, of Scotland.

The meeting then adjourned.

CHICAGO MEDICAL SOCIETY.

Meeting of January 19, 1885.

Dr. E. J. Doering, President *pro tem.;* Dr. Liston H. Montgomery, Secretary.

The Bacillus of Syphilis, and the Treatment of the Disease with Tannate of Mercury.—Dr. Josef Zeisler read a paper which began with a summary of a communication on the specific bacilli of syphilis, made by Dr. Sigmund Lustgarten to a Vienna medical society in November, 1884. In microscopical sections from two syphilitic chancres and a syphiloma, Lustgarten had found bacilli which were perfectly characterized by their color reaction, their form, and their relative position. They were represented as little rods, straight or somewhat curved, slightly larger than the bacilli of tuberculosis, but of the same general appearance. They were found single or in small groups, inclosed in somewhat distended lymphoid cells, and, with powerful illumination, showed spots like those that Koch regarded as spores in the tubercle bacilli. Their staining properties made it possible to distinguish them from all other pathogenetic organisms, and the fact of their being always inclosed in cells would prevent their being confounded with putrefaction formations, etc. As the author alluded to had cultivated this bacillus, and as his results had been confirmed by Koch, it would seem that the evidence was sufficient.

In regard to the treatment of the disease with the tannate of mercury, the first trials had been made by Kaposi, nearly a year ago, and the results had been so remarkable, and the advantages so great, that the drug was now freely used in Germany. It was a tannate of the protoxide, was without odor or taste, and was soluble only when decomposed. It contained about fifty per cent. of metallic mercury. Hydrochloric acid made no sensible impression on it; it was easily dissolved in nitric acid; and very dilute alkalies, such as solutions of ammonia, caustic potash, or an alkaline carbonate, reduced it to a sort of magma composed of very small particles of metallic mercury. Its rapid absorption into the system was proved by an abundant mercurial precipitate found in the urine shortly after it was administered. It was given in nearly all forms of syphilis—recent as well as inveterate eruptions and gummy deposits. The writer had himself seen the patients whose cases had been reported in one of the Vienna journals, and could testify to the results. Six of the cases were primary eruptions, three were gummata, two showed small papules and large pustules, and one was a case of relapsing secondary syphilis. A rapid diminution of the lesions would be observed in the course of a week or two, and in three or four weeks they would have entirely disappeared.

The author then alluded to a case that he had had under treatment lately, that of a man who contracted a chancre last June, at which time he received treatment by another physician. In six weeks the roseola appeared, together with various other manifestations. A number of remedies were used internally, and external treatment was employed, until September 14th, when the patient first consulted him. At that time there was a widely diffused maculo-papular syphilide. As it was impossible to obtain any of the tannate of mercury then, mercurial frictions were used until September 19th, but from this latter date until October 5th the patient took four grains and a half of the tannate daily. The eruption had then entirely disappeared, and only a few spots of pigmentation could be seen; there was no sign of salivation. The use of the drug was continued until the 1st of November, and the patient was then discharged cured.

The remedy was usually given in doses of about a grain and a half, with four or five grains of sugar, three times a day, an hour after meals. When thus given, it was rare for it to produce any sign of salivation. The alkaline carbonates, and considerable quantities of mineral waters containing such salts, should be avoided by patients who were taking the remedy, for they decomposed it; and iodide of potassium should not be given at the same time, as the production of a large amount of iodide of mercury would be the result. The writer had never seen any disagreeable symptoms of mercurial poisoning produced while the drug was being used, nor any irritation of the bowels, even when its use was continued for weeks in such large doses as six grains daily, and he had seen about twenty cases so treated. If the bowels became loose, a sixth of a grain of opium could be added to each dose. While this new remedy might not produce a revolution in the treatment of syphilis, it deserved to be classed among the best that had come into use.

Dr. G. C. Paoli asked with regard to the use of the drug in the tertiary form, where the bones were involved, and stated that its employment had been suggested as early as six years ago in some of the foreign journals. The main remedies that he relied upon were iodoform for chancres, and afterward fumigations and the use of the red iodide of mercury in small doses, and he had yet to see his first case of salivation from that treatment, which he could not say of the green iodide. He sometimes found it necessary to use a little opium or hyoscyamus, to prevent irritation of the bowels. The tannate might have astringent properties, and, if it had, it might be very good for children. Where the bones were affected, he thought iodide of potassium, in doses of fifteen, twenty, or thirty grains, was unequaled as a remedy, but the disease was one in which we could not say that any remedy was the best, for there were special idiosyncrasies in some cases. Regarding the micro-organism of syphilis, Dr. Saunders had discovered it ten years ago, but he had been ridiculed for his ideas, and had desisted from further investigations in that direction.

Dr. Robert Randolph had seen pathological specimens from syphilitic persons, and prepared slides, purporting to contain bacilli, at least three years ago, but it had then been concluded that there was nothing in the supposed discovery.

Dr. Zeisler thought that Dr. Paoli must be mistaken about the alleged discovery of syphilitic bacilli ten years ago, for certainly nothing was known about coloring or cultivating bacilli until within the past year.

A New Method of Counting a Rapid Pulse was the title of a short paper, by Dr. A. E. Hoadley. The method consisted simply in counting every alternate pulsation and multiplying the number by two. On the first trial one would probably fail to make an accurate count, but with a little practice the knack was soon acquired, and the acquisition might be hastened by practicing on the tick of a watch.

Obstruction of the Ileum by Peritoneal Adhesions; Death.—Dr. Hoadley also reported a case of this sort:

A man thirty years old, apparently in good health, was attacked very suddenly, in the night, March 14th, with severe pain in the abdomen, opposite the umbilicus. It continued for five or six hours, and then subsided, from the effect of remedies, as was supposed. After a few hours it returned and again subsided. With some variation in the frequency and severity of the paroxysms, it continued up to the time of his death, four weeks from the time of the seizure. Soon after the onset he began to suffer with vomiting of a very distressing nature, but in time this became more passive, although it continued from day to day to the last. At times he vomited simply what he had swallowed, but at other times, and especially during the first two weeks, the vomiting was stercoraceous. For three weeks the temperature did not exceed 100° F., and most of the time it was about normal, while the pulse ranged between 75 and 85, but gradually grew weaker, and during the last few days was very rapid and scarcely perceptible at the wrist. There was no tympanites, and but very little tenderness. Much of the time the abdomen was quite flat and had a doughy feel, but during the paroxysms it became as hard as a contracting uterus during labor, although there was no muscular rigidity or increase of tenderness; and during the intervals gentle kneading would reproduce the tense condition without producing pain. This state of things was most marked during the last week of the illness, at which time the patient was much exhausted, with his voice husky, his skin of a leaden color, and presenting a general pinched and emaciated appearance. The pains had then lost their severity, a sense of suffocation with general numbness being produced instead—as he described it, it felt as if his stomach was being crowded up under his ribs. Throughout the case, except on one day, there was no voluntary passage from the bowels, although before the attack they had been soluble and very regular. With the aid of injections and laxatives, a few small, elongated lumps of fæcal matter, never exceeding three eighths of an inch in diameter, were passed every day or two. At the end of the third week, however, there was a slight diarrhœa for one day only. Throughout his entire sickness, even in the absence of pain, he was restless and weary, and never slept more than an hour at a time.

Treatment was of little avail. Opium and chloroform were the principal remedies used; they retarded the vomiting and pain, but controlled neither. Many other remedies were tried, and the case was treated from every possible standpoint, except that of surgical interference; there seemed to be no time when an operation was admissible. Rectal alimentation appeared to give good results. Dr. J. D. Skeer and and Dr. C. W. Earle were called in consultation, and confirmed the writer's early diagnosis of mechanical obstruction of the small intestine, probably at the ileo-cæcal junction. The patient died on the twenty-eighth day. The autopsy revealed many peritoneal adhesions and bands of long standing, which were very firm, binding the ileum down into the pelvic cavity. One of them was firmly attached to the anterior abdominal wall, midway between the umbilicus and the middle of Poupart's ligament on the right side. At its attachment it was about one fourth of an inch thick and three fourths of an inch wide. It then spread downward to the left side of the pelvic cavity, where it was firmly adherent, from the brim far down upon the inner wall, becoming fasciculated and embracing the folds of the ileum between the fasciculi, furnishing a band that held the larger mass of the small intestine in the pelvis. On dividing these bands and removing the intestines, they were found everywhere bound together by adhesions; but there was not the slightest evidence of recent inflammation of the peritonæum, although the intestine itself was inflamed and very much softened for a distance of about four feet, extending to within twelve or fourteen inches of the ileo-cæcal junction. There was no evidence of previous disease of the intestine.

Eight years before the patient had been treated by the writer for typhoid fever, which ran a moderately severe course, and ended in a good recovery; and the most interesting point about the case, as it now appeared, was the fact that at that time he had a moderate peritonitis, which in all probability had given rise to the adhesions.

Dr. A. Leigh would like to know how the tense condition of the abdomen took place without muscular contraction.

Dr. F. Carey asked if there were any adhesions below the ileo-cæcal valve.

Dr. Hoadley replied that the valve was normal. So, too, was the caliber of the whole length of the colon; the small size of the passages was in part due to the pelvis being full of intestine, so that the fæces were molded, as it were. Regarding the tense condition, there was a spasmodic contraction of the bowels, which was uninfluenced by the will.

CHICAGO GYNÆCOLOGICAL SOCIETY.

Meeting of January 16, 1885.

The President, Dr. H. P. Merriman, in the Chair.

[From notes furnished by the society's editor, Dr. W. W. Jaggard.]

Ovariotomy.—Dr. E. C. Dudley read a paper on an interesting and unusual case of double ovariotomy, and showed the specimens.

The patient, eighteen years old, unmarried, came to Mercy Hospital, about eighteen months ago, to consult Dr. Dudley with reference to a marked abdominal enlargement, and a diagnosis was made of a monocystic tumor of the parovarium or of the broad ligament. Two gallons of fluid were withdrawn with an aspirator. Its specific gravity was 1·005, and it was as limpid as water; it was neutral in reaction, odorless, and colorless; no morphological elements were found with the microscope; it contained certain mineral salts, but no albumin. The patient was much relieved and left the hospital, thinking herself cured, but about three months ago she called on Dr. Dudley. The cyst had then partly filled again, and an operation was determined upon. In view of the embarrassment often met with at the time of the operation from a distended state of the intestines, careful preparatory treatment was adopted to diminish this source of trouble; besides tonics and medicines calculated to increase the tonicity of the muscular coat of the intestines, a mixture was given, two or three times a day, of calumba, rhubarb, and compound tincture of cardamum. The result was that absolutely no difficulty of the sort was encountered.

The operation was performed October 29th, with the assistance of Dr. W. W. Jaggard, Dr. R. W. Bishop, and Dr. W. E. Casselberry, strict antiseptic details being observed. Both ovaries and tubes were removed, together with a large monocyst of the left broad ligament. The pedicle of the cyst was very vascular, and, after it had been transfixed and tied in two halves, it was found necessary to tie it *en masse* also below the line of transfixion. Its surface was afterward seared, above a Baker Brown clamp, with Paquelin's cautery. At noon, two hours after the operation, the patient had reacted well; the temperature was 100·7° F., the pulse 150, and the respiration 20; but she complained of nausea. The nausea continued, and on the evening of the 30th the temperature was 101°, the pulse 124, and the respiration 20. Throughout the day she had vomited incessantly, and had moaned and tossed. A peculiar talkative delirium followed. Morphine and atropine were given to control the vomiting, but the atropine was discontinued, for fear of its cerebral action. Hot water was tried, as suggested by Dr. Keith, to check the nausea and vomiting, but without success. Deodorized tincture of opium was substituted for the morphine, but the talkative delirium, nausea, and vomiting continued unabated. She retained only a little ice-water at long intervals. On the 31st, both morning and evening, the temperature was 99·8°, the pulse 110, and the respiration 20. The nervous symptoms were greatly exaggerated; the nausea and vomiting were unabated, and pain in the abdomen was complained of at times. Codeine was substituted for the other opiates, and small quantities of milk and lime-water were given at intervals. There was no tympanites. On the 1st of November, morning and evening, the temperature was 99·7°, the pulse 106, and the respiration 20. Talkative delirium, nausea, vomiting of bile—the "mouth-filling" of Keith—and abdominal pain were present, but there was no tympanites. A flow of blood began to take place from the vagina. On the 2d the evening pulse was 135, but the temperature and respiration were normal. The nervous symptoms were more distressing, and the patient had a pinched, anxious expression. Valentine's beef-juice was given, also strychnine in small doses and champagne, together with bisulphate of quinine by the rectum, and mustard was applied to the epigastrium.

On the 3d, the morning range of the temperature and pulse was as follows: 8 A. M., 101°, 130; 10 A. M., 101·2°, 160; 10.30 A. M., 101·6°, 178. Wild talkative delirium, nausea, vomiting, and abdominal pain persisted. The pulse, while very rapid, was not the feeble pulse of collapse. In consultation with Dr. W. H. Byford, the day before, it had been decided that the patient was dying of exhaustion, and Dr. Byford was averse to opening the incision. Dr. Dudley had had one case of peritonitis, following perforation of the posterior uterine wall, in Mercy Hospital, prove fatal from septic poisoning, although the temperature did not rise above 100°. With the aid of Dr. R. W. Bishop, he etherized the patient whose case was now under consideration, removed four or five stitches from the lower part of the wound, and inspected the abdominal cavity. The peritonæum was found injected, but no lymph was noticed, and there was no gas in the intestines. The pedicles were not covered with lymph. A disinfected sponge, on a holder, was passed into Douglas's *cul-de-sac*, and about half a fluidounce of bloody serum was removed. It was odorless, and was not further examined. A little iodoform was dusted into the abdominal cavity, and the incision was closed again, with the feeling that no good had been accomplished. This was at 10. 30 A. M. At noon the temperature was 101°, and the pulse 150; at 2 P. M., 100° and 144; at 3 P. M., 100° and 135; at 7 P. M., 100° and 140. Jactitation, wild delirium, nausea, and vomiting followed, with pain in the region of the cœliac axis, but no tympanites. Food was given by the rectum.

On the morning of the 4th the temperature was 100, and the pulse ranged between 135 and 150. Whisky, beef-tea, and milk were given at regular intervals, and bisulphate of quinine by the rectum. The symptoms continued as before. In the afternoon the tongue was dry, cracked, and ready to bleed; the nausea and vomiting were decidedly less. An enema of soap and water, with extract of ox-gall, was ordered. A quart of this mixture was injected without producing an evacuation. A tube was then introduced, and an audible escape of flatus took place. It had been said by Keith that if the intestine had sufficient muscular energy to expel flatus the prognosis became more favorable. Probably there had been reversed peristalsis, and the enema had been absorbed. An hour afterward the tongue became moist. In the evening the temperature was 101°, and the pulse 135. A quart of strong beef-tea was thrown into the rectum.

On the 5th the patient was evidently in better condition, the morning and evening temperature being 98° and 99°, and the pulse 120 and 130. A quart of strong beef-juice was given by the rectum, being thrown well upward. About three quarters of it was retained. The nausea and vomiting were slight. There was a spontaneous discharge of a large quantity of dark, tarry, fœtid fæces. The sutures were all removed. From this time the patient's recovery was uninterrupted, and she was now in good health.

Dr. Dudley would call attention to the following points: 1. *Preparatory treatment of the intestinal tract.* Was it possible to render the intestines manageable during the operation by any dietetic or medicinal agencies? He thought that the mixture of rhubarb, etc., had accomplished it in this instance. 2. *The retention of enemata.* He had been surprised that a quart should be retained on three successive days. He supposed that the liquid part was absorbed at once, owing to the state of the tissues resulting from exhaustion, and this seemed to have been indicated by the prompt return of moisture to the tongue after an injection. 3. *The re-opening of the abdominal wound.* Had it done any good? What produced the excessive nervousness, the nausea, and the vomiting? It was difficult to say. It had been asserted that a very tight ligature around the pedicle would act as a reflex irritant, and at times the sutures were capable of producing very obscure reflex symptoms. He had known uncontrollable vomiting to yield at once on the withdrawal of a rubber drainage-tube. It might have been that the patient whose case he had reported was just on the eve of recovery when the abdomen was re-opened. The fluid removed was small in quantity and odorless; the peritonæum, however, could secrete with wonderful rapidity, and then absorb the secretion. If the case was one of exhaustion, the beef, milk, and whisky deserved the credit; if it was one of sepsis, the re-opening of the abdomen had been the potent factor.

Dr. HENRY T. BYFORD thought that the relief could hardly have come from the removal of so small a quantity of fluid. The fact that improvement followed so close upon the operation might be explained by the stimulating effect of the ether. The delirium seemed to him to have been either that of alcoholism or that of cerebral anæmia. He did not think that the nausea and vomiting could have been caused by the irritant action of the ligatures or sutures. It was a case of exhaustion, cured by the judicious use of beef, whisky, and milk.

Dr. EDWARD WARREN SAWYER was surprised that no albumin had been found in the fluid withdrawn with the aspirator.

Dr. FLAVIUS M. WILDER said that white of egg was frequently tolerated by the stomach when other matters were rejected.

Dr. W. W. JAGGARD thought that the secretory and resorptive powers of the peritonæum were positively known. In a recent paper, Dr. Anton Wölfler had taken substantially the position now taken by Dr. Dudley. It was quite possible that the half a fluidounce of bloody serum found in the *cul-de-sac* represented the ultimate stage of the resorption of a much larger amount. Half a fluidounce, however, might contain sepsin or bacteria enough to produce the most fatal septicæmia, as the virulence of certain poisons bore no relation to their quantity. The mere re-opening of the incision seemed to act favorably under certain conditions, as was acknowledged by a number of leading surgeons, but the reason for it was unknown. Dr. Dudley deserved great credit for following the suggestion of numerous operators, although he knew positively that there was no foreign body in the abdomen.

Dr. W. E. Casselberry wished to emphasize the importance of preparatory treatment of the intestinal tract. He had been present at both the operations to which Dr. Dudley had referred, and had been struck by the difference in the behavior of the intestines. The mixture employed by Dr. Dudley resembled a favorite prescription of the late Dr. George B. Wood's for expelling flatus and restoring the tone of the muscular wall of the intestines.

Dr. Daniel T. Nelson thought it was highly important to avoid the use of opium when possible; in general terms, the less opium was given, the less was the tendency to vomiting. As to the pedicle, he had grave doubts of the propriety of the ligature *en masse.*

Dr. Sawyer had seen uncontrollable vomiting follow ligation of the spermatic cord. He deprecated the general dread of re-opening the abdominal incision. He referred to a case where life was saved by re-opening the abdomen and securing bleeding vessels.

The President approved of the opening of the cavity in the present instance. He was not certain that the prescription used had been the cause of the favorable state of the intestines. He did not think that the opium was the cause of the vomiting, for it subsided while the patient was still under the influence of that drug. Separate ligation of the vessels could hardly take the place of the usual methods of treating the pedicle, for the danger of hæmorrhage was too great. If the pedicle was completely destroyed, the risk of pinching nerve filaments would be diminished.

Dr. Dudley remarked that in such conditions as tubercular and papillomatous disease of the peritonæum the mere opening of the abdomen had sometimes exerted a favorable action. A discharge could not produce septicæmia unless it was large in amount or foul in character. From his positive knowledge of his patient's habits, he could say that the delirium had not been due to alcoholism.

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(*Concluded from page 110.*)

Dystocia from an Anomaly of the Fœtal Skull.—Dr. Garrigues related a second case as follows: The patient was an English lady, twenty-four years of age, whom he had seen in consultation. He found that she had been in labor for two days, but the os was only of the size of a silver dollar. He gave chloroform, introduced the hand into the vagina, and dilated the os without difficulty. The patient was then allowed to rest a while to see if pains would come on naturally. During the two preceding days there had been no true labor pains, although the patient had suffered all that time. Very little change taking place after dilatation, Dr. Garrigues put on the forceps, and, with the assistance of the family physician, labored for three hours in vain attempts to extract the head. The bones of the skull were so hard and the sutures so firm that they refused to yield in the least. The fontanelles were very small; the posterior one could be felt in the right occipito-posterior position. Although the woman's pelvis was well developed, it was perfectly evident that the child was too large and the bones of the head too greatly ossified to permit of delivery in the natural manner. The anterior fontanelle was then perforated, and the brain extracted without difficulty, but it was still impossible to make the slightest impression with the forceps. The cephalotribe was then applied, but it produced no cracking of the bones, and examination with the finger showed that the cranial bones had simply yielded like a plate of lead. The forceps was then re-applied, and, the cranioclast being used also, the head was finally extracted. Dr. Garrigues remarked that he had found this combination of the forceps and cranioclast useful also in another case. The head having started, he removed the forceps and finished delivery with Simpson's cranioclast alone. He had once attempted to use Braun's cranioclast, but was not favorably impressed with it. He had employed Simpson's twice, and had found it answer every desired purpose. Braun's was larger, and filled the entire vagina.

Some further difficulty was experienced in extracting the child's shoulders, but this was finally accomplished by means of the blunt hook. Dr. Garrigues's attendance on the woman had extended over twelve hours; the operation proper had lasted eight hours, during which time three ounces of chloroform and two pounds of ether were consumed. The placenta was removed by the introduction of two fingers into the womb and the use of deep pressure upon the abdomen. The uterus was washed out with a solution of bichloride of mercury, one part to two thousand, and his pad applied. The patient did well. On the second day the temperature rose to 102° F., and for a time there was a profuse purulent discharge from the wounds in the vagina, but there had been no further trouble.

The child's head and shoulders were very large, it weighed eleven pounds and a half, was twenty-two inches long, and the shoulder girth was seventeen inches. The cranial sutures were very narrow, the fontanelles exceedingly small. The bones were very thick and elastic, which accounted for the fact that the cephalotribe made no more impression upon them than if they had been composed of a thick plate of lead.

Dr. Henry Griswold (present by invitation) said he had seen a case two years ago similar to the first one related by Dr. Garrigues. The woman seemed to be perfectly well developed in every respect, but there was absence of the vagina, uterus, and ovaries. There was a depression of the depth of a little over two inches where the vagina should have been. The woman had sexual desire, but did not menstruate. She had, however, the monthly molimen.

Dr. Hunter said that two cases parallel to that related by Dr. Garrigues had been under observation at the Woman's Hospital some years ago, in the service of Dr. Emmet. Both women were married, and the husband of each of them desired that an operation should be performed. Dr. Emmet made an artificial vagina about three inches in length, put in glass plugs, and kept the patients under observation a number of weeks. The tendency to recontraction was very great, and the first patient returned after a year in about her original condition. The other patient returned with firm contraction of the canal at the end of about six months. Dr. Hunter was of the impression that the formation of an artificial vagina in cases in which there was no uterus would not prove of much benefit; it was exceedingly difficult to keep it open.

Dr. John Scott, of San Francisco (present by invitation), referred to the case of a well-developed woman in whom an artificial vagina had been made, and who was then living happily with her husband. No trace of a uterus or ovaries could be found. In another case the patient was willing to pay any sum of money if he could assure her that the uterus was present, but, on learning that the organ was absent, she committed suicide.

Dr. Van Ness (present by invitation) said a girl, eighteen years of age, had applied for admission to the Woman's Hospital, having suffered greatly from her first menstruation, which had recently taken place. Thus far physical examination had revealed only a short *cul-de-sac,* without any signs of a uterus or ovaries. The fact that the patient had menstruated, however, would point to some trace of a uterus. There was now in the hospital a woman forty-five years of age, married twenty years, who had never had connection. Only a small *cul-de-sac* could be discovered at the situation of the vagina. There was now a growth of some sort in the pelvic cavity as large as a child's head at term, presumably a fibroid.

Dr. Colin Mackenzie said a young lady had been brought to him, within the past six months, having never menstruated, and, on examination, no uterus or ovaries were to be found. Dr. Emmet, who saw the patient, said no operation was justifiable.

Dr. J. W. S. Gouley (present by invitation) said he had reported a case in the "New York Medical Journal," in 1866 or 1867, in which there was absence of the uterus and ovaries. The patient suffered a great deal from headache.

The Chairman inquired whether the pelvis had been measured in Dr. Garrigues's case.

Dr. Garrigues replied that he had not measured the pelvis, but he supposed, from the examination and from the general appearance of the woman, that it was perfectly normal in size.

The Chairman said that the inference certainly would be that the pelvis was smaller than normal, for where there was absence of any of the pelvic contents there should be a lack of development of the pelvis itself. This was so commonly the rule that, when he found a congenital defect of the rectum with a relatively small pelvis, he inferred that there was a large piece of intestine wanting. He had observed this fact in several cases. If the pelvis was small in cases of congenital absence of the intestine, he thought it would also be found to be small in cases of absence of the sexual organs. It was true, however, that in the newly born the colon was much larger comparatively than at a more advanced age. Judging by analogy, he would not suppose that an artificial vagina would remain open without a transplantation of skin.

Dr. Garrigues remarked that the late Dr. Blake, of this society, thought a child with premature ossification of the bones of the cranium had a tendency to become idiotic, and that this fact should be taken into consideration when we were called upon to decide the question of sacrificing the child to accomplish delivery.

The Chairman was of the impression that in the case narrated by Dr. Garrigues there was not that degree of ossification which would prevent brain development. A great deal, however, would have to be left to the judgment of the physician in determining what procedure to adopt in such cases.

Cæsarean Section.—Dr. Murray (present by invitation) reported a case which he had seen in consultation. The woman, aged thirty-two, had been in labor for thirty hours, attended by a midwife, before her physician was called. He found on his arrival that there was some deformity of the pelvis, but was unable to measure the superior strait on account of a large caput succedaneum. Simpson's forceps was applied to the head, but without success. When Dr. Murray was called the patient was almost moribund, the child's head was fixed, and the position was such that the diameters of the pelvis could not be taken. Perforation was performed, but it was still impossible to extract the child, and it was found that the conjugate would admit only two fingers, while the breadth was more than that of the hand. After failing with Braun's cephalotribe, Dr. Murray said nothing more could be done than to perform the Cæsarean section, but this was not consented to until later. Turning was performed, but it was then impossible to engage the child in the superior strait. Dr. Gillette having been added to the consultation, the Cæsarean section was performed. Not sufficient hæmorrhage took place from the uterine wound to wet a single sponge. The woman lived for two days and a half, most of the time in a state of collapse, and died. The point to which Dr. Murray wished to call attention was the difficulty, under the circumstances, of making out the diameters of the superior strait. He also remarked that one of the gentlemen present had suggested laparo-elytrotomy, and this probably would have been the proper operation to perform had consent been given sufficiently early. Dr. Murray said that he had seen a similar case, the deformity, however, not being so marked, in which he was enabled to extract the child without difficulty after perforation.

Tapping the Peritonæum for Tympanites.—Dr. Hunter related a case in which a patient was attacked with peritonitis three days after laparotomy, the temperature being controlled by the abdominal coil. There had been very little hæmorrhage during the operation, and no tube was left in the wound. The important feature in the case was the development of an excessive degree of tympanites, the distension being enormous. Long rectal tubes were passed by the anus, and much gas escaped, but still a great amount of distension remained and caused the patient much distress. By the twelfth day she was thought to be moribund; the pulse was over 170. Dr. Hunter then punctured the abdomen in the median line with a large hypodermic needle, and immediately gas began to escape, and continued to escape for half an hour. The patient very soon recovered from her state of collapse, and eventually went on to complete recovery. Dr. Hunter had not expected much benefit from the tapping, since in previous cases the needle had entered the intestine and let out the gas only from a limited portion of the gut. In the present case the tube happened to penetrate only into the peritoneal cavity, from whence the gas had been unable to escape. This was the only instance he had met with in which recovery had followed puncture for tympanites. The gas which escaped was not offensive.

Dr. Nicoll said that several years ago he saw a woman, much reduced in general health, suffering from a pelvic abscess which had discharged into the vagina. She was suffering from intense dyspnœa, the result of tympanites. As a means of rendering her condition more comfortable, he punctured the abdomen in several places with a slender aspirator needle, and much fœtid gas escaped, greatly to the relief of the patient, who then went on to complete recovery. Doubtless the intestine had been punctured, as the gas was of a foul odor.

Dr. Murray referred to a case in Bellevue Hospital, in which, some years ago, the abdomen was punctured for tympanites developed after an operation; a large amount of odorless gas escaped, and the patient got well.

The Chairman thought that in a large number of cases we could not tell whether the needle entered the intestine or only the peritoneal cavity. He had heard it stated that such punctures, even if they proved of no benefit, could do no harm, for, so long as one punctured living tissue, the opening would close again immediately on withdrawing the needle, particularly if the needle was small. This, however, was a mistake, especially when we had to do with cases of peritonitis. In healthy tissue a small hole would close immediately on withdrawing the needle, because of the elasticity of the tissue. But when one had to deal with a peritonitis in which the intestine was much inflated and its wall anatomically changed by an œdematous effusion into its muscular tissue, we found tissues which were no longer normal—tissues from which, at least in some cases, the elasticity had disappeared; and in such cases he had found at post-mortem examination holes still remaining patent which had been made by the hypodermic needle, and through which fæces had escaped into the abdominal cavity. In such cases the intestine was in a paralytic condition, and punctures with the hypodermic needle might prove dangerous. He did not say that they were dangerous in all cases, but that they were in some he had had opportunity to verify at autopsies.

Double Oophoritis a Cause of Absence of Menstruation.—Dr. Jacobi said he happened to be present when an autopsy was made upon two bodies in the dead-house of the Bellevue Hospital that afternoon, one of the cases being that of a girl, seventeen years of age, regarding whose sexual history nothing further was known than that she had never menstruated. He observed that both ovaries seemed to be somewhat enlarged, the tissue being unusually white, and the general appearance that of ovaries affected with chronic inflammation. He asked if this was recognized as a frequent cause of absent menstruation. The body was well developed.

Distribution of the Diphtheritic Membrane.—The second case to which Dr. Jacobi referred was that of a child which had died after tracheotomy for diphtheria. It had lived two days and a half after the operation. There was slight broncho-pneumonia of both lower lobes. There was a small membrane behind the tonsils, which, probably, could not have been seen during life, the tonsils hiding the membrane entirely. The lower face of the epiglottis was completely covered with the false membrane, while the upper, as was usual in such cases, was entirely free from the exudation. The lower larynx and trachea were covered by the membrane. In the trachea was a peculiarity which Dr. Jacobi had very rarely observed. In this locality, as a rule, we found at the post-mortem the pseudo-membrane entire, and there was so much mucus present that the membrane could easily be peeled off, and the cases were rare in which even the true diphtheritic membrane was so deeply imbedded in this situation that it could not be removed. In the present instance a part of the membrane seemed to be lying loose on the surface, and could easily be removed, while beneath was another portion firmly attached to the mucous and submucous structures, which could not be removed without taking with it the underlying tissue. The case illustrated a statement which he had made on more than one occasion, that in the same case we might be able to raise the false membrane at one point and not at all at a point a centimetre distant. The same membrane extended down, probably, into the bronchi of the third order.

Henry J. Garrigues, M. D.,
B. F. Dawson, M. D.,
Frank P. Foster, M. D.,
Committee on Publication.

Miscellany.

THERAPEUTICAL NOTES.

The Treatment of Locomotor Ataxia.—Eulenberg ("Lyon méd."; "Glasgow Med. Jour.") has treated three hundred cases with hypodermic injections of silver, using the following formula:

Chloride of silver	2 grains;
Hyposulphite of sodium	10 "
Distilled water	5 drachms.

The injections are made in the back. The patient is said to obtain a rapid relief from pain, which, however, is only temporary. Besides silver, the writer uses local applications of cold, the constant current, and hypodermic injections of strychnine.

A Mixture for Whooping-Cough.—Roger ("Union méd.") is credited with this mixture:

Syrup of belladonna	1½ ounce;
Syrup of valerian, Syrup of digitalis,	each 6 drachms.

Each teaspoonful contains about one twelfth of a grain of the extract of belladonna. The dose, for children under two years of age, is half a teaspoonful during the day, gradually increased every two days until two teaspoonfuls are administered in twenty-four hours. With children from two to five years of age, the dose may be carried up to six teaspoonfuls daily. The mixture is particularly recommended during the second stage of the disease.

Ipecac in Metrorrhagia.—Cheron ("Rev. méd.-chir. des mal. des femmes"; "Jour. of the Am. Med. Assoc.") reports favorably on the effect of small doses of powdered ipecac (three grains), which he administers every hour until twenty doses have been taken. It is then discontinued for twelve hours, and again given if the hæmorrhage has not been checked. The rationale of the treatment is, that small doses of the drug exercise a depressing effect upon the nervous system, and thus indirectly upon the vascular system.

A Permanent Surgical Dressing.—M. Marc Sée contributes an article upon this subject to the "Bull. de l'Acad. de méd.," in which he details the results of his method of treatment in several cases. His mode of procedure is, briefly, as follows: After finishing an operation, and just before tying the sutures, he sprinkles over the surface of the wound about a drachm of subnitrate of bismuth, which at once stops the oozing by forming a thin, dry layer, occluding the mouths of the small vessels. After introducing a drainage-tube, he closes the wound with quilled sutures, small rolls of iodoform gauze being substituted for the ordinary quills. The line of incision is then covered with a layer of bismuth, and a dressing of carbolized gauze is applied. It is not necessary to disturb this dressing until it is time to remove the sutures or drainage-tube. The advantages asserted for bismuth are its cleanliness, its property of absorbing fluids, the fact that it does not act as a foreign body when interposed between the lips of a wound, and, lastly, its cheapness. Stress is laid particularly upon the fact that it is rarely necessary to disturb the dressings during the process of healing.

Topical Application for Dental Caries.—Redier ("Union méd.") suggests the following mixture:

Tincture of benzoin	1 drachm;
Tincture of opium, Chloroform, Creasote,	each ½ drachm.

Cleanse the carious cavity, and introduce into it a small tampon of cotton soaked in the mixture. This is to be left *in situ* for a few minutes, and then removed in case relief is not obtained. The action of the remedy is said to be prompt and almost invariably successful.

Ergot as a Remedy for Constipation.—Granzis ("Allg. med. Ctrl.-Ztg.") recommends ergot, in doses of ten grains every two hours, until three doses have been given. This treatment is particularly applicable to cases of constipation depending upon atony of the bowel.

The Hypodermic Use of Caffeine.—Huchard ("Jour. de méd. de Paris") suggests this combination for hypodermic injection in cases of collapse:

Salicylate of sodium	45 grains;
Caffeine	1 drachm;
Distilled water	1½ drachm.

Fifteen minims contain six grains and a half of caffeine.

An Ointment for Syphilitic Ulcers.—Terrillou ("Union méd.") gives the following formula:

Pyrogallic acid, Starch,	each 5 drachms;
Vaseline	2 ounces.

This ointment is to be spread upon charpie, and applied to the ulcers once a day. A second application is not generally necessary, unless the lesions are very extensive. For this preparation a powder composed of equal parts of pyrogallic acid and starch may be substituted.

A Remedy for Diarrhœa.—Desprès (*Ibid.*) is credited with the following formula:

Chloroform	15 grains;
Alcohol	2 drachms;
Solution of acetate of ammonium	2½ "
Syrup of hydrochlorate of morphine	10 "
Water	3½ ounces.

Dose, a tablespoonful every half-hour.

Hydrochlorate of Pereirine in Intermittent Fever.—Ferreira (*Ibid.*) speaks highly of this drug, which he has used in a number of cases in which quinine produced no impression. Thirty grains daily is the dose recommended.

Transfusion of Peptonized Blood.—Afanassiew ("Prog. méd.") suggests that the principal danger in transfusion, that of the coagulation of the blood within the vessels, may be removed if a small quantity of peptone is added to the blood.

The Treatment of Sick-Headache.—Dr. W. Gill Wylie, of New York, has produced excellent results with the following method of treatment: So soon as the first pain is felt, the patient is to take a pill, or capsule, containing one grain of inspissated ox-gall and one drop of oil of gaultheria, every hour until relief is felt, or until six have been taken. Dr. Wylie states that sick-headache as such is almost invariably cut short by this plan, although some pain of a neuralgic character remains in a few cases.

The Consequences of Extirpation of the Spleen.—Mosler ("Deutsche med. Wochenschrift"; "Centralbl. f. Chirurgie") has made a number of experiments upon dogs with the purpose of determining definitely the result of removing the spleen. He draws the following deductions:

1. The spleen is not absolutely essential to the life of an animal.
2. After removal of the organ, its functions are carried on especially by the marrow of bones.
3. The changes in the blood observed for some time after removal of the spleen are such as to convince the writer that the organ is directly concerned in the formation of both the red and the white blood-corpuscles.
4. No change is noticed in the character of the gastric or pancreatic digestion after extirpation.

The Physiological Action of Cocaine.—Dr. H. M. Biggs, of New York, publishes, in a late number of the "Journal of the American Medical Association," a valuable article upon this subject, which is founded on a series of experiments conducted by the author in the physiological laboratory at Berlin. Twenty-one experiments are minutely described, and carefully prepared tables are added. The paper is such a scholarly one that we can not do justice to it in a brief abstract. The writer summarizes the results of his experiments thus: "In conclusion, then, the action of cocaine on the frog may be summed up as follows: 1. It has a powerful local anæsthetic action on the skin, the mucous membrane, and the eye. It usually produces mydriasis. 2. It has a depressant action on the heart, reduces the force and frequency of its pulsations, and finally paralyzes it (first the ventricles and then the auricles) in diastole. 3. In small doses it at first slightly increases the number of the respirations, then decreases it, and in large doses diminishes it rapidly from the first, finally causing death from a paralysis of respiration. 4. It at first slightly heightens and then greatly depresses the reflex action of the spinal cord in small doses. Large doses depress from the first. 5. Small doses at first slightly increase the irritability of the sensory nerves, then depress their irritability, and large doses depress from the first. 6. Both large and small (not very small) doses have a depressant action on the motor nerves. 7. It paralyzes the pneumogastric nerves. 8. Doses of moderate size diminish the excitability of the striated muscles. 9. The local application of cocaine to any of the more highly constituted organs or tissues causes a temporary cessation of their functional activity. 10. From the local and constitutional action on the different organs and tissues, it is rendered probable that its general action is a local one, exercised on all parts for which it has a chemical affinity, through its presence in the blood. The results of these experiments would seem to indicate the use of cocaine in tetanus and strychnine poisoning."

A Splenic Murmur in Intermittent Fever.—Maissurianz ("St. Petersburg med. Wochenschrift") describes a systolic murmur which he has heard over the region of the spleen in patients with acute intermittent. He explains the phenomenon on the ground that it is probably due to dilatation of the splenic vessels following enlargement of the organ; it is also possible, he thinks, that the arteries may be subject to alternate contraction and dilatation, so that the blood meets with an obstruction in its flow through the spleen. The murmur is analogous to that sometimes heard in the uterine sinuses during pregnancy. The writer maintains that this condition has never before been described. He has noticed the murmur in eight cases, all of which were acute. In spleens which were affected with permanent or chronic enlargement he has never been able to detect it. He considers its presence a diagnostic sign of considerable importance, and implies that such cases are most benefited by a direct application of the interrupted current over the spleen.

The "New York Medical Journal" for January 3, 1885.—As our supply of that number of the "Journal" is nearly exhausted, we shall feel under obligation to any of our subscribers who do not preserve the numbers if they will kindly send us their copies, for which we shall be glad to pay the publication price.

The New York Orthopædic Society.—This new and promising society held its first annual meeting on the 29th of January, and elected the following-named gentlemen to office for the coming year: Dr. V. P. Gibney, president; Dr. A. B. Judson, vice-president; Dr. T. L. Stedman, secretary; and Dr. W. T. Bull, treasurer.

The Manhattan Eye and Ear Hospital.—Dr. David Webster, who for several years has held the position of assistant surgeon in the institution, has been appointed surgeon.

The Philadelphia Clinical Society.—At the meeting of January 23d, officers were elected as follows: Dr. Edward E. Montgomery, president; Dr. John B. Roberts, first vice-president; Dr. Amy S. Barton, second vice-president; Dr. Ida E .Richardson, corresponding secretary; Dr. I. G. Heilman, recording secretary; Dr. Mary Willits, reporting secretary; Dr. I. Brewer Hall, treasurer; and Dr. James B. Walker, Dr. Daniel Longaker, Dr. Henry Beates, and Dr. Henry Leffmann, councilors.

The New York Infant Asylum.—Dr. E. C. Wendt has been appointed pathologist, with a seat in the medical board, to the Maternity and House of Reception, *vice* Dr. William H. Welch, resigned.

The Health of the State of New York.—We quote as follows from the State Board of Health's "Bulletin" for the month of December, 1884: "The total reported mortality for the month is 6,378. The percentage of infant mortality is 33·6. From acute respiratory diseases the percentage is 18·8; from consumption, 14·6; from diphtheria and croup, 7·8; from typhoid fever, 1·6; from all zymotic diseases, 17·9. Diphtheria continues to prevail, the relative mortality being the same as in November. The greatest mortality for the month is from acute respiratory diseases. The returns for the month are more complete than last month, but still from many localities are less than they should be, assuming a rate of 20 per 1,000 annually as a low average for towns large enough to show little vacillation monthly. In Troy the actual burials for November were found, on investigation, to be 146, but 43 having been reported; the December returns show improvement, but are still incomplete. Returns from Cohoes are utterly unreliable, and are now under investigation by this board. The average annual death-rate of 108 localities is about 15."

Diphtheria in Michigan.—At a meeting of the State Board of Health of Michigan, held January 13th, the secretary, Dr. Henry B. Baker, made an elaborate report, for a copy of which we are indebted to that officer. The report contains the following paragraph: "Many outbreaks of diphtheria had been reported during the quarter. During the serious outbreak in Kalamazoo, from July 20 to December 20, 1884, over 260 cases and 54 deaths from diphtheria were reported to the Kalamazoo Board of Health. The health officer of Kalamazoo reported, December 22, 1884, that the epidemic in that city appeared to be nearly or quite at an end; but since that report, *and following the thaw*, there was a sudden increase of diphtheria in Kalamazoo, twenty cases being reported in one week." New cases continue to be reported from Detroit, the report goes on to say, at the rate of about thirty-five to forty a week. The total number of cases in Detroit for the year 1884, as collected from the weekly reports of the health officer, was over 1,300, and the number of deaths over 340.

Professor von Ziemssen, of Munich, according to the "Deutsche Medizinal-Zeitung," has received the title of *Geheimrath.*

THE NEW YORK MEDICAL JOURNAL, February 14, 1885.

Original Communications.

ON THE MANAGEMENT OF BREECH CASES IN WHICH BOTH EXTREMITIES ARE REFLECTED UPWARD PARALLEL TO THE ANTERIOR SURFACE OF THE CHILD.*

By WILLIAM T. LUSK, M. D.

In the preparation of the following paper I am well aware that I have no novel suggestions to make, and yet I feel sure that to many practitioners a more precise formulation of the indications for the employment of the resources of the obstetric art in the difficulties which arise in that form of breech presentation where both extremities are reflected upward parallel to the body of the child would be welcome, and perhaps will contribute something to the diminution of infant mortality.

In all forms of breech presentations it is the rule that the natural forces are capable of effecting the delivery of the child without assistance. Where, in the interests of the mother or the child, however, interference becomes necessary, all are familiar with the fact that, when the legs are flexed, and both feet and breech present together, the bringing down of an extremity and the extraction of the child are accomplished by well-established procedures; while in cases where the extremities are parallel to the anterior surface of the fœtus, with the toes pointing over the shoulder, the operator is embarrassed by the absence of a natural handle by means of which extraction can be effected. But it is precisely in the latter class that Nature most often fails to finish her work, and in which obstetrical aid is called for. Tarnier gives as a reason for this the fact that the extended extremities act as splints, which interfere with the lateral flexion of the trunk, and, consequently, with its accommodation to the curve of the parturient canal.

Theoretically, cephalic version by gentle manipulations through the abdominal walls, performed during the latter part of pregnancy or in the early stages of labor, most completely fulfills the required indications, viz.: the saving of the child with the least risk to the mother. That, in cases where the breech is not engaged in the pelvic cavity and the membranes are intact, external version may be successfully accomplished, has been shown by Mattei, Hegar, and Pinard, all warm partisans of the measure. Tarnier at first opposed the proposition of Mattei on the ground of its impracticability and the risk of rupturing the membranes after the conversion of the breech into a shoulder presentation, but more recently has practiced the procedure in many cases successfully without inconvenience to the mother or child.†

In obstetrical practice outside of lying-in hospitals the method is not likely to come into common use. It presupposes great familiarity in the mapping out of the fœtus by abdominal palpation, a relatively considerable quantity of amniotic fluid, and the absence of excessive irritability of the uterine walls. Certainly in the case of most medical men the diagnosis of the breech is first made after the breech has descended below the pelvic brim—i. e., at a time when cephalic version has ceased to be an elective operation.

Ahlfeld * has suggested that in primiparæ the hand be introduced immediately after the rupture of the membranes, or at least while the introduction is still practicable, and that the anterior extremity be brought down as a prophylactic measure, leaving the child subsequently to be expelled by the natural forces. Zweifel, in his "Lehrbuch der operativen Geburtshülfe," makes the same recommendation, but Küstner, in common with most authorities, objects that the manœuvres requisite to bring down a foot are apt to weaken the uterine contractions and to determine the prolapse of the cord. In other words, in order to avert a remote danger, a near one quite as serious in its nature is invited.

Of course, when it becomes necessary to expedite delivery, in all cases where it is possible to introduce the hand to the fundus of the uterus without imperiling the uterine structures, and an extremity can be drawn to the vagina without resort to violence, such a method should be employed in preference to others. But in reality such cases are exceptional. Emergencies rarely arise before the breech has descended into the pelvic cavity. Most frequently the rupture of the membranes is followed by the complete escape of the amniotic fluid, and the speedy retraction of the uterus upon the fœtus. The introduction of the hand and forearm over the anterior surface of the child to the fundus then becomes a serious undertaking, and may lead to uterine rupture. Traction upon the extremity seized is not always followed by its descent, or where force is used the descent may be accomplished at the expense of a fracture. To be sure, the manœuvre is supported by the very high authority of Dr. Robert Barnes. "The wedge formed by the extended legs and the upper part of the trunk must," he says, "in some instances at least, be decomposed before delivery can be effected." He recommends complete anæsthesia, support of the fundus, gentleness in passing the breech at the brim, and applying the finger to the instep. "I have brought a live child into the world," he says again, "by this proceeding when forceps, hooks, and various other means had been tried for many hours." But Barnes does not conceal the difficulties of the operation, nor the address requisite for its successful employment, and many other accoucheurs less fortunate than he have placed on record their failures to decompose the wedge in the manner advised. I would urge, therefore, the utmost caution in seeking the feet, and that the operator abandon the attempt in all cases where address fails and force is found necessary.

If, at the time intervention becomes necessary, the breech is well engaged in the pelvis, the fœtus is of ordinary size, and the resistance offered by the pelvic floor is inconsiderable, extraction may unquestionably be effected by hooking the index-fingers respectively into the anterior and posterior groins. In very easy cases the breech, when high in the pelvis, may be made to descend by traction in the anterior groin. The direction of the tractions, as Madame La Chapelle long ago insisted, should at the brim be downward and backward, in the cavity directly downward, and at the outlet downward and forward. It is, however, hardly necessary, in the presence of a body of experienced practitioners such as I address to-day, to note how often in primiparous women this manœuvre fails utterly at the critical moment. In such an event Braun von Fernwald * recommends the method of Boër, which consists in passing a single hand over the sacrum, and seizing the pelvis with the thumb in one groin and the index in the other.

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* Read before the New York State Medical Association, November 19, 1884.

† Ollivier, "De la conduite à tenir dans la présentation de l'extrémité pelvienne, mode des fesses," p. 103.

* Ahlfeld, "Arch. f. Gynaek.," vol. v, p. 174.

Many, perhaps most, writers insist upon manual methods of extraction to the exclusion of all others. My own experience is favorable to the use of instrumental aids as additional resources, where the hand alone proves inadequate to accomplish the object aimed at. At the risk of exciting adverse criticism, I do not hesitate to advocate, in cases of need, the forceps, the fillet, the blunt hook, and, when the child is dead, the cephalotribe, and would recommend them in the order I have given.

I know that the right of the forceps to the place of honor in the foregoing list is not likely to pass unchallenged. Some months ago a former pupil of mine wrote me from the West that a medical man in his vicinity had applied the forceps to the breech, and had extracted the child alive. Both mother and child subsequently did perfectly well, but during the exit of the breech the perinæum was lacerated. A suit for malpractice was thereupon brought against the operator, and it was easy to array against him a formidable list of authorities who refer to the use of forceps in breech cases in terms of the strongest reprobation. The case was referred to me for arbitrament, and I had no hesitation in recommending a dismissal of the proceedings.

The chief objection urged against the forceps is to the effect that, by its construction, it is designed only to seize the fœtal head. As a consequence, therefore, when applied to the breech, to which its curves are not adapted, it does not grasp the presenting part securely, and is liable to slip off when tractions are employed, thus endangering the maternal soft parts. If, with the view to prevent slipping, the handles are firmly compressed, fracture of the thighs may result, the circulation of the cord may be accidentally arrested, or fatal injuries may be inflicted upon the fœtus by the pressure of the points of the forceps against the abdominal viscera. To obviate these drawbacks, Miles † has had constructed a pair of breech forceps apparently well designed for seizing the pelvic extremity, and has given the histories of two cases in which they were successfully employed. As, however, a forceps of special construction is likely to be but rarely at the disposition of the physician when an emergency calls for action, it is not without interest know how far the ordinary instrument is available in practice.

From the time of the earliest period when the forceps was introduced to popular favor, there has been no lack of partisans for its employment as a tractor to the breech. Ollivier mentions among its earlier advocates André Levret in France, Roederer and Stein in Germany, and Bertrandi in Italy. More recently Jacquemier declares it to be preferable to the blunt hook, and says: "It is inexact to state that it would crush the pelvic bones, and inevitably kill the fœtus by bruising and lacerating the abdominal viscera. . . ." In his now famous article on the forceps, published in 1872, in the "Dictionnaire de médecine et de chirurgie" (1872), Tarnier stated that under exceptional circumstances neither Stoltz nor Dubois feared to apply that instrument to the breech, and added that he had several times imitated their practice with success as regarded the mother and sometimes as regarded the child. Where the fœtus was dead he made the autopsy with care, and had assured himself that the forceps had produced no lesion either of the pelvis or of the abdominal viscera. Hüter, in his excellent treatise on "The Obstetrical Operations" (Leipsic, 1874), declares that no better instrument exists for the extraction of the breech than the forceps. Dr. Henry Fruitnight, of this city, published in the July number of the "Virginia Medical Monthly," 1877, a successful case where the forceps was used at the suggestion of Dr. E. C. Harwood. Dr. I. E. Taylor informs me that he has applied the forceps to the breech six times with success. In the same year Dr. Agnew reported two successful cases to the London Obstetrical Society.

In 1877, Haake * published five cases, in which, as he says, to the astonishment of the physicians present, the extraction with the forceps was easily and quickly ended without the slightest detriment to the fœtus. Last year I saw, in consultation with Dr. F. A. Castle, a case of breech presentation in a primipara who had passed her thirtieth year. We both of us essayed extraction with the fingers, but in vain. The breech was in the pelvic cavity, but had not yet completed its descent through the cervical orifice. The fœtus occupied an oblique diameter, with the back directed to the left and front. In accordance with Haake's suggestion, I applied one blade of Simpson's forceps over the posterior surface of the thigh, and the other over the sacrum, with the extremity of the latter blade just above the crest of the ilium. In spite of the rigidity of the soft parts, the child was extracted alive in about fifteen minutes. The pressure marks of the forceps were inconsiderable. Dr. Harvey, Professor of Midwifery in the Medical College of Bengal, in an essay just received, reports six cases; in three out of six the success was complete, in one the forceps was without avail, while in the other two the instrument did not slip until it had brought down the breech so as to allow him in one case to get his fingers over the groin, and in the other to apply the fillet, which he had previously failed to do. Dr. W. H. Van Wyck, of this city, reports to me by letter two cases in which, in the years 1865 and 1867, he

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* Braun von Fernwald, "Lehrbuch der gesammten Gynaekologie," p. 747.

† Miles, "The Forceps in Difficult Breech Presentations," "Am. Jour. of Obst.," vol. xii, p. 135.

* Haake, "Ueber den Gebrauch der Kopfzange zur Extraction des Steisses," "Arch. f. Gynaek.," vol. xi, p. 558.

extracted the children by the breech with the forceps. Both children were born living.

Since the invention by Tarnier of axis-traction a new impetus has been given to the method advocated.

With axis-traction not only is the resistance offered by the pelvic canal diminished, but, as Pinard states, the pressure is regulated and is not increased by traction. The fœtal portion is therefore seized solidly, and with the least risk of harm. Ollivier reports successes with Tarnier's latest model in his own practice and in that of Budin, Thomas, Berthaut, Lobat, and Cayla.

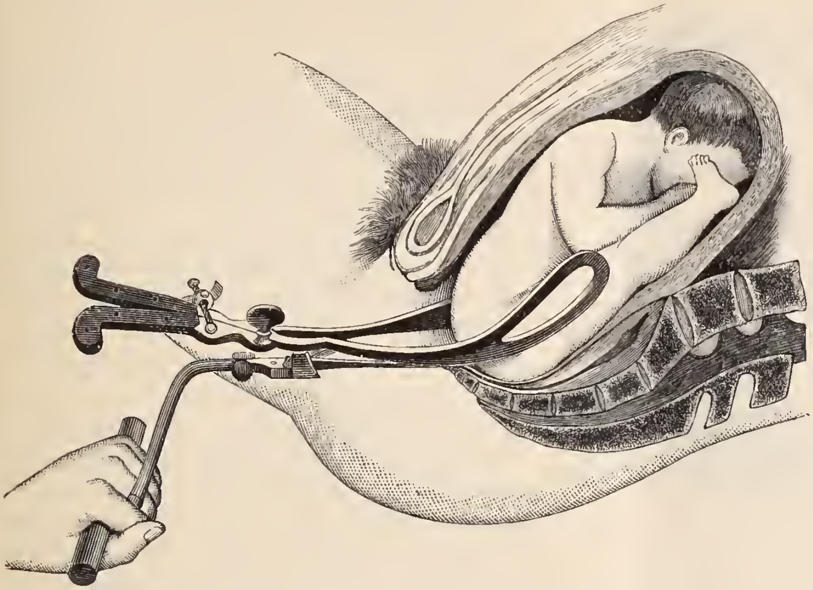

Fig. 1.—Tarnier's Forceps applied to the Thighs. (Ollivier.)

Thus it will be seen that the weight of experience is favorable to the use of the forceps as a breech-tractor, while the objections are for the most part theoretical. As regards the rules governing the application of the forceps to the breech, it should be stated that the instrument is inadmissible so long as the breech does not engage in the pelvis. Haake limited its employment to cases in which the breech was already in the pelvic outlet, and after complete rotation had taken place. The history I have related shows that this rule is not inflexible even with the ordinary forceps. With the axis-traction forceps the indication is certainly extended, as a rule, to all cases where the breech has passed below the pelvic brim, and where the dilatation of the os is well advanced. If rotation has taken place, the blades should be applied over the sacrum and the posterior surface of the thigh, as recommended by Haake. If the hips occupy a transverse diameter, the blades should be applied to the lateral surfaces of the thighs, as suggested by Ollivier. The application of the blades over the trochanters with the extremities overlapping the crests of the ilia is to be deprecated, as the ilia are compressible and allow the forceps to slip (Ollivier). The extraction of the child should not be made an exhibition of strength. The rigidity of the maternal structures is rarely to be overcome by any justifiable degree of force. The slow descent of the breech, effected by intermittent tractions, insures the physiological softening of the tissues in advance of the presenting part. In this respect the rule is the same as in head presentations. As the genital canal softens and relaxes, but little force is required to effect the birth of the breech. The tractions are most effective if made during the pains. If possible, they should be aided by simultaneous pressure, exerted by an assistant, upon the fundus of the uterus. If these rules are observed, the efforts to extract the breech will, in a large number of cases, I am sure, be crowned with success. If they fail, at least no injury to either mother or child is likely to result from the trial.

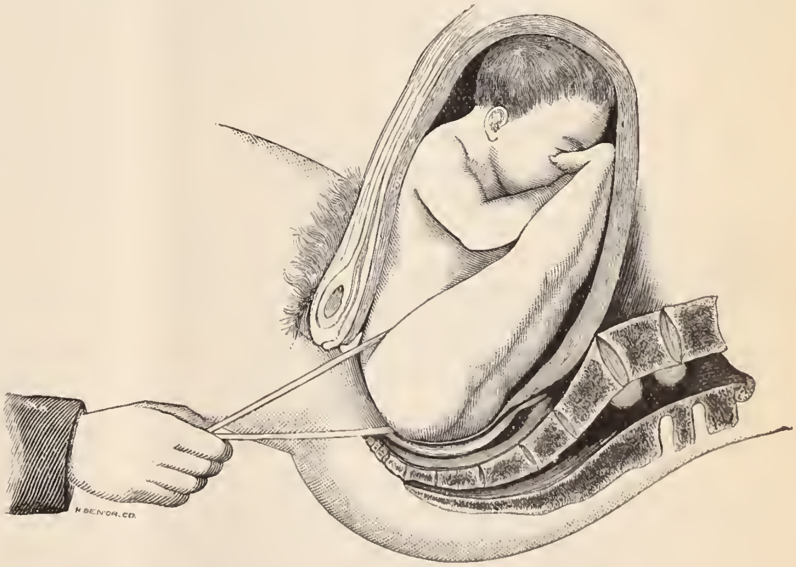

Fig. 2.—The Fillet in Dorso-anterior Positions.

If the forceps fails, or, owing to the non-engagement of the breech, it is contra-indicated, and an extremity can not be brought down without the employment of force, a resort to the fillet is admissible. The theoretical objections to its use are: 1. That the fillet is apt to become twisted, and that, when moistened with the vaginal secretions, it forms an uneven band, which, even with care, is capable of cutting deeply into the tissues. 2. That in some cases it causes partial extension of the extremity, and, as a consequence, slips forward upon the thigh, whence a fracture of the thigh bone becomes inevitable. The reports from the Lying-in Institution of Munich, where, owing to the advocacy of Hecker, the fillet has been assiduously tested, do not confirm these gloomy prognostications. Thus, in the last report of von Weckberger-Sternefeld, the records of thirty-one cases are given (twenty-one of primiparæ, nine of pluriparæ, and one not stated). The mothers all did well. One of the children was in a macerated condition when the fillet was employed. Of the remaining thirty, twenty-four were born living. Of these, eight were partially asphyxiated, but seven were revived. In no one of the children born dead was the result in any way attributable to the means of extraction employed. Twenty-three of the children left the institution in a healthy condition. In four cases, deep pressure marks, but without excoriation, resulted from the fillet. In the others, either no traces of pressure were found, or they were of an insignificant nature. In all, the marks had disappeared in a few days. In one instance only fracture of the thigh occurred. The back of the child was turned to the right and to the rear. Ollivier has shown that it is the dorso-posterior positions that call for especial caution when traction is made at the groin. A glance at the accompanying diagram will show that it is not easy in these cases to direct the tractions in such a way as to avoid the partial extension of the limb, and the transfer of the pressure to the thigh bone. In a series of experiments in which a dead fœtus was dragged, by means of the fillet, through an artificial pelvis, Ollivier found that it was possible in dorso-posterior positions to prevent the extension of the thigh by passing the hand behind the breech and pressing forward during the tractions. He suggests, therefore, that in actual labor the danger under consideration could be avoided by exerting a similar pressure forward by means of the fingers of one hand inserted into the rectum. It is hardly necessary to add that when the fillet is used it should be passed over the anterior thigh, that only moderate tractions should be employed, that these are most effective when made during the pains, and that very effective aid can be furnished by conjoint pressure upon the opposite pole of the fœtus exerted during the tractions by a skilled assistant.

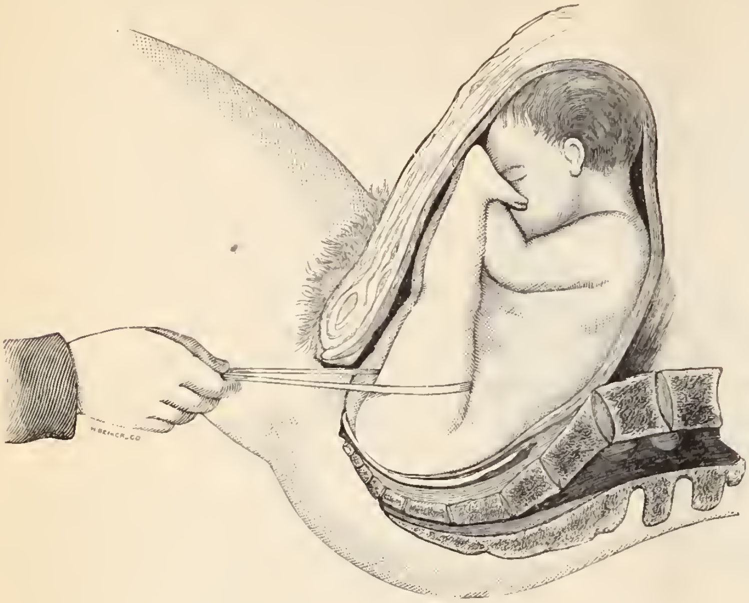

Fig. 3.—The Fillet in Dorso-posterior Positions. (Ollivier.)

The main drawback to the popularization of the fillet is the fact that its passage around the groin by the finger alone is by no means easy in the very class of cases in which it is principally indicated—viz.: those where the breech is high in the pelvis, and difficult of access. To be sure, with patience the knotted end of a handkerchief can sometimes be pushed around the flexure of the thigh, or, failing in this, an elastic catheter with an attached loop may be guided by a finger in the groin between the thighs, to serve as a means of conducting the fillet into position. Because of the difficulties, however, attendant upon both these plans, many porte-fillets have been devised. The one I now exhibit, which is a modification by Ollivier of an instrument invented by Tarnier for carrying a cord around the neck of the child in neglected shoulder presentations, is an ingenious example. It consists of a long-handled blunt hook, tunneled in the center, and terminating in an olive-shaped bulb. The central canal permits the passage of a long piece of whalebone, the extremity of which is furnished with a metallic eye to which a loop can be attached. When the whalebone is withdrawn, the eye occupies a hollow space in the olive-shaped extremity of the blunt hook. Below the handle the end of the whalebone is supplied with a button to prevent it from being accidentally withdrawn into the canal. A screw above the handle serves to fix the bone at whatever point is deemed desirable. The blunt hook is adjusted by passing it upward along the surface of the child, directed to the front to a point above the pelvis, and then directing the curve so as to adjust it to the groin. The whalebone is then easily pushed forward until it is felt by the finger of the physician between the thighs of the fœtus. The metallic eye is next directed outside of the vulva by the fingers, and the attached fillet is easily withdrawn by reversing the process described.

The fillet employed may be of any material. Every care should be taken to adjust it without forming folds or creases. In emergencies the nearest object has to serve the purpose. Ollivier recommends passing a lacing through a piece of rubber tubing of the size of the little finger. The lacing should be sewed to the extremities of the tube, a projecting portion serving to attach the tube to the eye at the end of the whalebone of the porte-fillet. The rubber tubing in his experiments admirably answered the purpose of protecting the tissues of the child from injurious pressure.

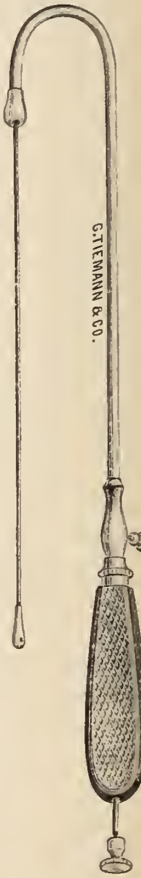

Fig. 4.

In the absence of other appliances, or should failure attend the measures already described, it is well to remember that the blunt hook owes its evil reputation not so much to its inherent defects as to lack of proper caution in its employment. It will not break the femur if adjusted in the groin. It will not produce serious contusions if the blunt end is carefully guarded by the finger. Injuries to the maternal organs can only occur where leverage movements are made. The pressure of the curved portion upon the groin is not likely to produce serious lesions. Steady downward tractions made with moderate force, and with a hand in the vagina to guard the point of the instrument and to give warning of commencing extension of the thigh, will as a rule suffice to prevent the occurrence of serious accident.

Finally, it is proper to state that no instrument is capable of furnishing so secure a hold of the breech as the cephalotribe. If the child is dead, a fact rarely to be determined with positiveness except in cases where the cord can be felt, the cephalotribe should be screwed tightly to the breech, and may be trusted to act as a perfectly reliable tractor.

ON THE PATHOLOGICAL ANATOMY OF SENSORY APHASIA.

By R. W. AMIDON, A. M., M. D.,
NEW YORK.

(*Concluded from page 116.*)

Case VI.*—The patient was a widow of forty-six. She had never menstruated. For three months she had had continual bilateral headache, so much worse at night that sleep was impossible. She had not vomited, lost consciousness, nor had epileptic attacks.

On admission, February 22, 1882, her state was as follows: She had violent headaches; there was slight dilatation of the right pupil. When asked her name, she would turn her head, but say nothing. On repeating the demand, she replied, first, "What do you say to me?" secondly, "I don't understand," and the third time she replied correctly and gave her name. Sometimes, by repeating questions in this way two or three times, she would answer correctly. Often it was impossible to make her understand at all, and to all questions she invariably replied, "What do you say to me? I don't understand you! Cure me!"

Hearing and sight were intact. She read well, and answered questions which were written and shown to her. Common and special sensibility were intact. Motility and the reflexes were normal.

February 28th.—To all questions she answered, "Cure me!" The headache was apparently intense.

March 2d.—Whenever addressed she held up her head and said, "I do not understand." She died comatose at 2 P. M.

On autopsy, there was found a tumor the size of a walnut in the posterior part of the left temporal lobe. Above, it reached the fissure of Sylvius; below, it involved three quarters of the breadth of the second temporal convolution. It reached forward to within three centimetres of the anterior extremity of the temporal lobe, backward to within one centimetre of the posterior extremity of the fissure of Sylvius. It encroached slightly on the white matter, and was easily enucleated. (See Fig. 6.)

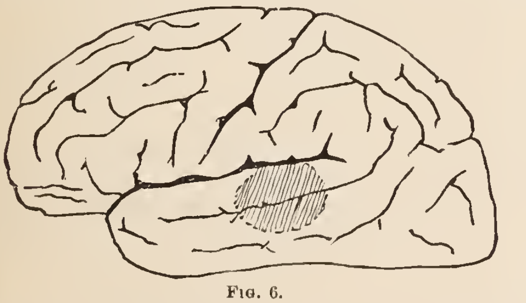

Fig. 6.

The tumor, on microscopic examination, proved to be a sarcoma.

Case VII.*—A widow, aged fifty-one, entered the hospital in a state of maniacal excitement.

She pronounced many words imperfectly, so that her speech was rather difficult to understand, while her flow of ideas seemed active enough.

When she became quiet and her attention was attracted, she did not appear very attentive, and manifested surprise if spoken to, as if confused, or as if imperfectly understanding what was said. When asked to protrude the tongue, give her hand, or raise the arm, she did not execute the movement, but would sometimes reply, "Call me Assunta."

If, without speaking, she was told, by a gesture, to make some movement, she obeyed with singular promptness.

Her mode of expression was notably altered; she articulated words well, but they were often unintelligible because of the omission of syllables or other changes. Being shown an object, the patient might call it by an absurd name: but, on being told the right one, perceived her error and pronounced the correct name over and over.

If shown an object of which she had the correct idea, but not the name, as a pin, she would appear to think a long time, and then, apparently tired out with the endeavor, she would say, "Prick, prick." She expressed some ideas spontaneously with perfect accuracy.

She perceived the slightest noises, and audition seemed perfect in both ears.

The acuteness of vision was unimpaired in both eyes. The left pupil was always smaller than the right. There was no lesion of the fundus oculi. Her mental faculties, after the subsidence of the delirium, seemed unimpaired. Sensibility and motility appeared normal. One day, while in the hospital, the patient had an apoplectiform attack. She was semi-comatose and speechless, and had paresis of sensation and motion on the left side of the body with exaggerated tendon reflexes. She recovered from this, but eight days later was seized with a right parotitis, with a temperature of 39·4° C. The paralysis came on in an aggravated form and confined the patient to bed, where she acquired bed-sores and soon died of pyæmia.

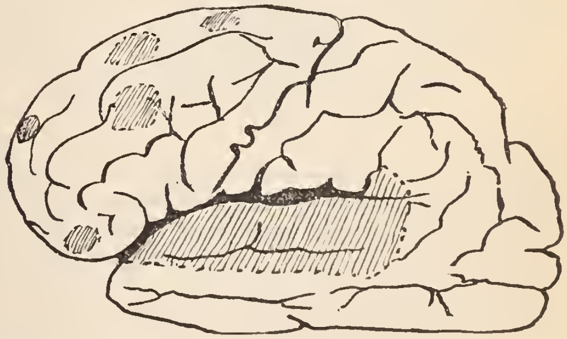

Fig. 7.

At the autopsy there was found an opacity, with thickening, all along the left Sylvian fissure. The membranes were tenaciously adherent in spots along the first and second frontal convolutions and on the orbital convolutions of both sides, and over the first and part of the second convolution of the left temporal lobe. This meningeal adhesion extended back a little on to the external part of the supra-marginal gyrus. (See Fig. 7.) There was a very slight adhesion at the extreme tip of the right temporal lobe. The foot of the left third frontal convolution was intact.

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* "Note sur un cas de surdité cérébrale." C. Girandeau, "Revue de médecine," ii, 1882, p. 446.

* La Sordità Verbale od Afasia Sensoriale. Studio Clinico ed Anatomico-patologico del Dott. Giuseppe Seppilli. "Rivista Sperimentale di Freniatria e di Medicina Legale," 1884, anno x, fascic. i–ii, p. 94.

Spots of cortical softening corresponded to these patches of adhesion, especially marked in the first and second left temporal convolutions.

Case VIII.[*]—A male, aged fifty-six. A year previously suffered with an intense headache, accompanied by some mental disturbance. As a child, he had epilepsy. He abused alcohol.

On admission, he had an air of hebetude, and seemed entirely oblivious of what was going on around him. To all questions he replied, "That there; yes, that." He talked little and in a confused manner, and also his articulation seemed changed. He showed indubitable signs of dementia; external impressions provoked no ideas, no sentiments, and his language was reduced to a very few phrases. His sense of hearing seemed acute. Commands accompanied by explanatory gestures he obeyed.

Voluntary activity was lessened, and he made all movements very slowly. He walked alone, but lifted his feet very little. His muscular force was well preserved. General sensibility and vision seemed well preserved. An ophthalmoscopic examination revealed no lesion. Some circulatory disturbances pointed toward atheroma of the aorta with hypertrophy of the left ventricle.

One month after admission, the patient died immediately after an epileptic attack, with contracture and turning of the head to the left.

At the autopsy there was found an area of softening occupying the entire second temporal convolution, the external half of the first and the internal half of the third temporal convolution, on the left side. (See Fig. 8.) The cortex in this region was completely destroyed. The basal ganglia were intact.

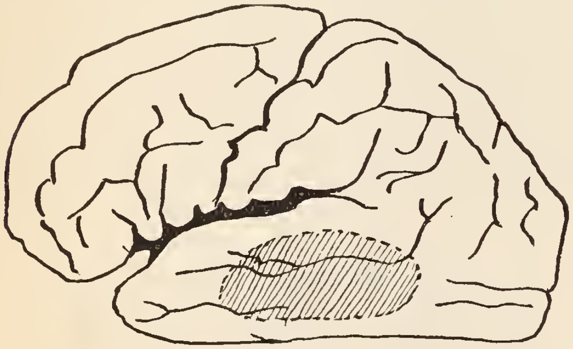

Fig. 8.

Case IX.[†]—A man, aged seventy, made known his wants by ordinary language, but did not understand a single word spoken to him. He was in a condition of senile mental weakness. His hearing was good. He had visual disturbances, which suggested psychical deafness.

In the right hemisphere there was found an old cyst from softening in the place of the sulcus hippocampi, with complete destruction of the cuneus of the first and second occipital convolutions.

On the left side there was a small recent softening of the second and third occipital and second parietal convolutions. Along the first temporal convolution was a cyst full of a serous liquid.

Case X.[*]—In a male, aged thirty-seven, speech was reduced to a few words. Understood nothing said to him. Comprehended gestures. Hearing was intact. He had left hemiplegia with contracture.

There was a cortical encephalitis of the right ascending parietal convolution. A second area of softening involved the first and the front part of the second temporal convolution of the left side.

Case XI.[†]—A woman, aged fifty-five, with motor aphasia. Could read writing or print, but did not understand spoken words. Read the papers with pleasure. Made her wants known by writing. There was found a diffuse sclerosis of the left third frontal convolution and insula, while a spot of softening occupied the first and second temporal convolutions.

Case XII.[‡]—A woman, aged forty-three, whose language consisted of inarticulate sounds. Understood nothing. Would take nothing that was given to her, and appeared deaf and stupid.

She was seized with epileptiform convulsions, followed by transitory right hemiplegia. A little later there was slight paresis of the left arm.

A gummy infiltration occupied the entire first and second temporal convolutions on the left side and the white substance underneath. The dura and pia mater and cortex were all massed together.

The right temporal lobe was equally involved except upon the upper and posterior part, the lesion extending over upon the inferior parietal lobule and the angular gyrus.

Case XIII.[#]—In this case speech was completely abolished. Did not understand what was asked of him except by gestures. The writing was reversed, and with the left hand. There was slight deafness. There was paralysis of the right extremities.

On autopsy, there was found embolism of the left Sylvian artery, with softening of the insula and the posterior part of the first temporal convolution and inferior parietal lobule. There was also cellular infiltration of the basal ganglia.

Case XIV.[‖]—A man, aged thirty, had motor aphasia and word-deafness. He understood words very imperfectly, some not at all. If spoken to in a loud voice, he did not reply. He had paralysis of sensation and motion of the right side of the face, paresis and anæsthesia of the right arm. His hearing was intact.

On autopsy, there was found a rupture of a small aneurysm situated on a small lateral branch of the external frontal artery, causing an effusion which covered the convolutions of the insula, and the anterior and upper part of the first temporal convolution. The outer part of the cortex underlying this clot was softened and of a yellow color.

Case XV.[△]—A woman, aged seventy-five, answered all questions incorrectly. Her spontaneous vocabulary was very good. She often corrected wrong words. She pronounced some things thickly. Her intelligence was weakened and confused. Her sensibility and motility were apparently intact.

The cerebral convolutions were atrophied. She had diffuse atheroma of the cerebral arteries, thrombosis of the Sylvian artery, and softening of the entire left first temporal convolution and a part of the inferior parietal lobule. The insula was intact.

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[*] Seppilli, *l. c.*

[†] Monakow, "Arch. f. Psych. u. Nervenkr.," Bd. xiv, Hft. 3, 1883, quoted by Seppilli.

[*] Rosenthal, Erlenmeyer's "Centralblatt," No. 1, 1884, quoted by Seppilli.

[†] Magnan, "Gaz. des hôp.," No. 59, 1883, cited by Seppilli.

[‡] Wernicke and Friedländer, "Fortschritte d. Med.," No. 6, 1883, quoted by Seppilli.

[#] Weiss, "Wiener med. Woch.," No. 12, 1882, quoted by Seppilli.

[‖] Petrina, "Sensibilitätstörungen bei Hirnrindläsionen," Prague, 1881, quoted by Seppilli.

[△] Wernicke, "Der aphasische Symptomencomplex," Breslau, 1874, cited by Seppilli.

Case XVI.[*]—A man, aged forty-nine, whose speech consisted of queer, inarticulate sounds, except an occasional "If you please," or "Thank you." Often entered into long conversations with persons near him, evidently thinking he expressed himself well, and not conscious that he talked unintelligibly. When talked to, evidently understood nothing, and could not read writing or print.

He had right facial paresis and right hemianæsthesia. There existed softening of the supra-marginal gyrus, the angular gyrus, the first and second temporal convolutions, and a part of the neighboring occipital lobe of the left hemisphere.

Case XVII.[†]—A man, aged sixty-eight, understood nothing said to him. He answered always wrongly, while he spoke correctly. His intellect was weakened. His hearing was good. There was found a softening involving the left first temporal convolution, except its anterior third. This disorganized cortex, and also the corresponding border of second temporal convolution, had a brown color.

Case XVIII.[‡]—A man of fifty had motor aphasia and word-deafness. There was right hemiplegia, with hemianæsthesia to touch, pain, and heat. His hearing was good. There was softening of the lower third of the first frontal convolution and the upper and anterior part of the first temporal convolution of the left side.

Case XIX.[#]—A woman of forty-two, whose speech was unintelligible. Understood absolutely nothing. Her sensibility and motility were both good. The convolutions of the left temporal lobe were jelly-like; also the right temporal lobe was slightly softened. A section showed that the softening was confined to the cortex, on the right side of all the temporal convolutions except the basilar, and on the left side to the same region. The foot of the third frontal convolution was not included.

Case XX.[‖]—A man of fifty-eight. Pronounced only the word "dijon." Did not understand the most simple demand. Did understand gestures. His intelligence was weakened. There was slight weakness of the lower part of the face and the extremities on the right side. There was softening of the first and the upper part of the second temporal convolutions, extending back on to the parietal and occipital lobe, and forward on to the base of the first frontal convolution. A section showed a focal lesion in the substance of the third frontal convolution.

Case XXI.[△]—A female was suddenly seized with amnesic aphasia. There was no affection of sensation or motion; smell and taste were normal. She kept both eyes turned to the left. The ophthalmoscopic examination was negative.

There was embolism of the parieto-sphenoid branch of the left Sylvian artery. The entire left lower parietal lobule was the seat of a softening which extended somewhat upon the second occipital convolution.

Case XXII.[◊]—A male, aged sixty-four, had right hemianopsia, agraphia, aphasia, and ataxia.

On autopsy, there was found an area of softening in the left occipital lobe, and the posterior parts of the second temporal and inferior parietal convolutions. This softening extended in toward the lateral ventricle. A second area of softening, in the left external capsule, encroached on the lenticular nucleus and the anterior part of the internal capsule.

Case XXIII.[*]—A woman, aged thirty-seven, had been in the Charité, in the service of Hardy, for six weeks for a slight right hemiplegia, with aphasia. She could pronounce a certain number of words easily, but expression of ideas by speech was much impaired. At first she had indisputable word-blindness. She read, but did not understand. She wrote correctly at dictation, and read it, but did not understand it at all. During the next fifteen days she gradually became completely aphasic, and had a very pronounced right hemiplegia. Both these symptoms were variable.

On autopsy, there was found a gliomatous tumor, the size of a mandarin orange, in the inferior parietal lobule.

Case XXIV.[†]—An adult male was suddenly attacked with inability to be understood; wrong words were substituted. There was no paralysis. He had a pressure feeling and slight pain on left side of head. He was depressed. There were hallucinations of vision. He could not write from dictation at first.

Three months later he cut his throat.

The arteries at the base were atheromatous in patches. There were miliary aneurysms, and several small cavities containing serum scattered throughout the occipital lobes. In the left hemisphere, just above the lateral ventricle, there was a yellow spot twelve mm. in diameter. At the extreme posterior end of the fissure of Sylvius, just above its superior margin in the supra-marginal convolution, there was a cavity two cm. in diameter. In the outer member of the right lenticular nucleus, adjoining the external capsule, was a pear-shaped cavity, five by twelve mm. in diameter.

To supplement the pathological facts in the preceding pages, there is really very little to add.

The profound study to which aphasia has been subjected has led observers to make a sharp clinical and anatomical distinction between motor and sensory aphasia.

Sensory aphasia, clinically, may be:

1. Word-blindness: where the patient can talk or write spontaneously, but where, with or without mental or visual disturbances, there is an inability on the part of the patient to understand written or printed speech, even though he may read it aloud correctly. In short, a state in which all visual impressions connected with language, except gestures, fail to be transformed into visual verbal images.

2. Word-deafness: where the patient can talk or write spontaneously, but where, with or without mental or auditory disturbances, there is an inability on the part of the patient to understand articulate speech. In short, a state in which all auditory impressions connected with language fail to be transformed into acoustic verbal images.

3. A combination of both word-blindness and word-deafness.

Sensory aphasia is at times associated with amnesic and motor aphasia, right hemiplegia, mental disturbances, and hemiopic defects of vision.

Before the subdivision of sensory aphasia was made, it was often noticed that aphasic symptoms did not invariably point to a lesion of the left third frontal convolution and insula, Broca's center for articulate speech. But in these cases this region was often entirely intact, and the lesion was found behind and below the motor area of the left hemisphere.

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[*] Broadbent, "Lancet," 1878, cited by Seppilli.

[†] Claus, "Der Irrenfreund," No. 6, 1883, quoted by Seppilli.

[‡] Petrina, *l. c.*, quoted by Seppilli.

[#] Kahler and Pick, "Vierteljahresschrift. f. d. prakt. Heilkunde," Nos. 1 and 3, 1879, quoted by Seppilli.

[‖] Kahler and Pick, *l. c.*, cited by Seppilli.

[△] Fritsch, Wernicke, cited by Starr.

[◊] The Visual Area in the Brain determined by a Study of Hemianopsia, by M. Allen Starr. "Am. Jour. of the Med. Sci.," January, 1884, p. 65.

[*] Déjérine, Soc. de biol., July 17, 1880, "Prog. méd.," 1880, viii, 629.

[†] Webber, S. G., "Boston Med. and Surg. Jour.," December 20, 1883, vol. cix, p. 580.

In the light of our present knowledge, we designate these cases of sensory aphasia either word-deafness, word-blindness, or both, entirely distinct from motor aphasia, the lesion of which Broca so accurately located.

Thus the lesion of sensory aphasia in the case of word-blindness is apt to be included in the region about the posterior extremity of the fissure of Sylvius, the inferior parietal lobule, the angular gyrus, and the second occipital convolution of the left side, or parts subjacent to them.

In the case of word-deafness the lesion is apt to include the first and second temporal convolutions of the left side, or parts subjacent to them.

This first of these areas, physiologists have long taught us, is in animals intimately connected with vision; the second, with audition; hence we have learned to call them the visual and auditory areas of the brain, respectively.

Of the twenty-four patients whose cases form the basis of this paper, eight, with lesion of both visual and auditory regions of the left hemisphere, had "word-blindness" and "word-deafness"; two, with lesion of the visual area, had "word-blindness"; and fourteen, with lesion of the auditory area, had "word-deafness."

A CASE OF GUNSHOT WOUND OF THE INTESTINES TREATED SUCCESSFULLY BY LAPAROTOMY WITH SUTURE OF THE INTESTINES.*

By WILLIAM T. BULL, M. D.,
SURGEON TO THE NEW YORK HOSPITAL.

The propriety of exploring the abdomen for gunshot wounds has been amply discussed by many surgeons, both here and abroad. The majority still oppose it, notwithstanding that the very favorable results of abdominal operations for pathological lesions are generally acknowledged. Otis, Sims, Gross, Dugas, McGuire, Kinloch, and Parkes, in this country; Legouest, in France, and Nussbaum, in Germany, have urgently advocated operative interference. But they have been compelled to frame their conclusions from theoretical considerations and statistical data, and have been unable to support their views by the record of a single successful case. In fact, up to the last twelve months I find but two cases recorded in which thorough abdominal exploration was resorted to by laparotomy. Kinloch, in 1882, opened the belly and sutured five pistol-shot wounds in the mesentery and intestine. Two other wounds escaped observation. The patient died in thirty hours. Lloyd, of the Queen's Hospital, Birmingham, performed abdominal section for suppurative peritonitis three days after a pistol-ball had perforated the small intestine in two places. The intestine was sewed into the abdominal wound and the cavity drained. Death followed in two hours.† Last summer, however, Kocher, of Berne, sutured a pistol-shot wound of the anterior wall of the stomach through an incision in the median line, and the patient recovered. The case is briefly reported in the "American Journal of the Medical Sciences" for October, 1884:

> "A boy, aged fourteen, was admitted into the hospital half an hour after having received a wound in the region of the stomach, from a pistol-shot, aimed at him from a distance of five paces. He was pale, and complained of abdominal pain; the abdomen was swollen, and distinctly dull on percussion inferiorly. Pressure on abdomen caused pain. A quarter of an hour later, hiccough, severe epigastric pain, vomiting, pallor, and symptoms of collapse came on. There was tympanitic resonance from the ensiform cartilage to the umbilicus, with complete dullness from the navel downward, and in the flanks. The lightest percussion caused severe pain. Three hours after the injury laparotomy was performed. On opening the abdominal cavity in the region of the navel a great quantity of dark blood escaped. The bullet wound was discovered with comparative ease; it was situated on the anterior surface of the stomach, toward the greater curvature, in the direction of the fundus. The wound was circular, with sharp edges, and about half an inch in diameter. The bullet could not be found, nor was there any aperture of exit. The edges of the wound were united first with two catgut ligatures like an ordinary wound, and then a continuous silk suture was applied for the distance of about an inch, so as to invert the serous coat around the wound. Recovery was retarded by an abscess which formed in the track of the sutures in the abdominal wound."

As a further contribution to this subject I wish to present the following history, and with it I have the pleasure of showing you the patient. It is now three months, lacking a few days, from the time when the operation was performed, and he has quite recovered his usual health.

William McElroy, a truck-driver, twenty-two years of age, was brought to the Chambers Street Hospital at 10 P. M., November 2, 1884, by an ambulance from the police station of the tenth precinct. A half-hour previously he had been accidentally shot with a pistol of caliber ·32, the ball entering the abdominal wall near the navel. On admission, he was found to be perfectly conscious, warm, with a pulse of 96, of good volume; temperature 97·8° F., respiration 18. He had vomited solid food before admission. He retched frequently, complained of great pain all over the abdomen, and had tenesmus. The abdomen was tender, but not swollen nor tympanitic. The wound of entrance was situated an inch and a half below the navel, and an inch and a half to the left of the median line. It was half an inch in diameter, with blackened edges. The bullet could not be detected anywhere beneath the skin. The wound was not probed. A dressing of iodoform gauze and borated cotton was applied after thoroughly washing the skin with a two-and-a-half-per-cent. solution of carbolic acid. One sixth of a grain of morphine was given hypodermically.

Twelve hours later, November 3d, 10.30 A. M., when seen by myself, his condition was as follows: pulse 102, respiration 30, temperature 100·2°. He had severe abdominal pain, although he had received twenty-one minims of Magendie's solution (in four injections) since admission. He had slept for about half an hour after each injection. He had vomited a little watery fluid, with particles of food. His urine had been drawn, and contained no blood. Nothing had been passed *per rectum.* The abdomen was normal in appearance (save for the wound) and to the touch, but slightly tender all over. The rectum was normal. He had received nothing by the mouth but ice, except

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* Read before the New York Surgical Society, January 27, 1885.

† "British Medical Journal," March 24, 1883.

(by mistake) a cup of milk, which was shortly afterward thrown up. A cold-water coil had been put on the body and the dressing made lighter. A probe could not be made to enter the cavity with gentle manipulation.

Seven hours later, seventeen hours after the accident (Nov. 3d, 5.30 P. M.), his condition was practically unchanged. He had passed urine voluntarily. The operation was performed with the assistance of Dr. F. W. Murray, Dr. C. A. Jersey, and Dr. Mack, Dr. Morton, Dr. Kirby, and Dr. Ten Eyck, of the house staff. Dr. B. Farquhar Curtis, Dr. C. A. Powers, Dr. A. B. Jessup, Jr., and several others, witnessed it. The following antiseptic precautions were observed: Two large atomizers sprayed the operating-room for two hours before the operation with a five-per-cent. solution of carbolic acid. The room itself (which was 25 × 35 or 40) was heated to 80° F., and all the solutions used were warm. For the instruments and hands a five-per-cent. solution of carbolic acid was employed. The sponges were fresh from carbolic acid after having been purified with permanganate of potassium, and bleached with oxalic acid (Keller's process). The towels, which were not new, were soaked in a five-per-cent. solution of carbolic acid for an hour. The catgut was Kocher's; the large silk for the abdominal wound had been boiled in carbolic acid, but the finer, "No. 1" (the iron-dyed silk of Snowden), which was used for the wounds of the gut, was not put into carbolic acid till the operation was begun. During the operation warm water was used for the towels and for washing the sponges, but the final sponging of the cavity was done with two-and-a-half-per-cent. carbolic-acid solution.

A vertical incision, two inches long, into the bullet wound, showed that it was directed in a zigzag course through the parietes, and actually perforated the peritonæum. The usual incision was then made in the middle line, from the umbilicus to just above the pubes. On opening the peritonæum, bloody serum, without any fæcal masses, but containing small clots, flowed out freely (at least two pints), floating the coils of intestine into the wound. On the free border of the first portion of gut presenting was a slight incised wound of the serous coat only, which was doubtless made by the scissors. It was tied with catgut over an artery clamp. Several coils of intestine, representing three or four feet in length, were then pulled out of the wound and carefully examined. The intestine and mesentery were coated here and there with clots and flakes of fibrin, and these were so adherent that, to dislodge them and see the surface clearly, it was necessary to rub the peritonæum firmly with the sponge two or three times, and this both on its upper and lower surface. The gut was lightly congested, and its coils were not adherent. These were placed under layers of towels, and occasionally drenched with warm water. The first wound, shown diagrammatically in Fig. 1, was about half an inch in diameter, situated midway between the attached and the free border of the intestine, and several feet from the cæcum. The serous coat was clean-cut, the mucous membrane lacerated and everted. It bled easily when its edges were separated, but not till then did yellow fæces, of the consistence of gruel, escape. (The same was true of all the wounds. The everted mucous membrane acted as a plug.) The abdominal wound was then plugged with large sponges to shut off the cavity, leaving only space enough for the protrusion of the loop of six inches, which contained the wound. This was spread out on a towel, emptied of fæcal matter through the bullet wound, and held with both hands by an assistant. The mucous membrane was inverted by making traction with two hooks, so as to convert the round hole into a longitudinal slit, parallel with the transverse diameter of the gut. The peritoneal edges were then approximated by five sutures inserted according to Lembert's method. Iodoform was rubbed along the line of suture. (This plan was followed with all the other wounds.) After removing several more loops the cavity of the pelvis was empty, and the cæcum, the sigmoid flexure, the rectum, and the bladder were inspected after sponging out considerable bloody fluid, with clots. The bullet was detected at once, lodged in the upper surface of the sigmoid flexure, close to its mesenteric border. (Fig. 2.) It was just beneath the peritonæum, but, on removing it, the wound was found to enter the lumen of the bowel, which was quite empty. Three sutures closed the wound. The open pelvis was then protected with sponges, and more intestine drawn out from under the left edge of the abdominal wound. A third perforation was encountered, similar to the first in size, but situated on the upper surface of the gut, near its free border. A fourth and fifth were also found close together, and separated only by a ridge of the serous coat, nearly opposite the preceding one, but an inch higher up, and a sixth one about three inches farther on. (Fig. 3.) These four wounds were all within a length of four inches of the intestine. The two which were so close

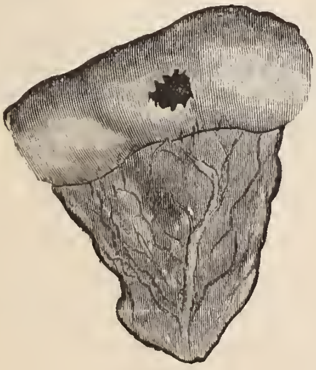

FIG. 1.

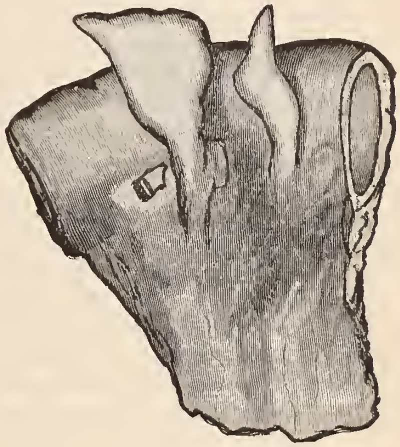

FIG. 2.

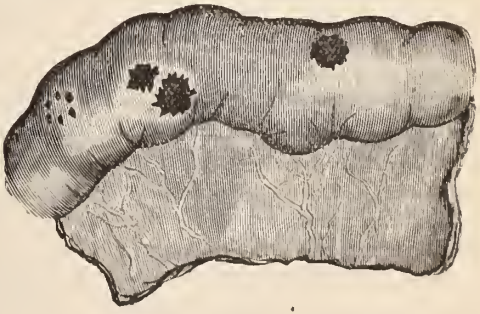

FIG. 3.

together had ragged and everted edges, from which the serous coat was stripped off for a distance of an eighth of an inch. The bowel contained fæces, and was treated as before described. But the fourth and fifth wounds were converted into one oval slit by trimming off the ragged edges, and twelve sutures were required to close this, while five each were put into the other two wounds. The oval wound, made by trimming the two adjacent ones, embraced about one third the caliber of the bowel, and its axis, when sewed up, was oblique in direction. The others were parallel with the transverse axis.

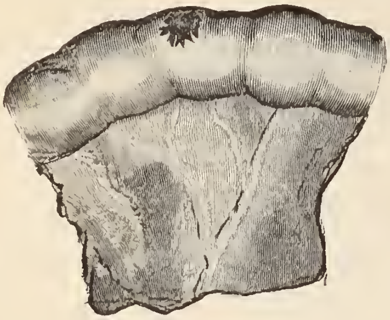

Fig. 4.

A few loops of intestine still remained in the cavity. In removing them, the seventh perforation was found, several inches beyond the sixth. It was closed with five sutures. The small intestine, except the duodenum, was now all out. A sponge on a holder was passed into the epigastric and both lumbar regions. No blood or foreign matter was detected. The great omentum was not seen.

The pelvis was again sponged out, this time with a two-and-a-half-per-cent. solution of carbolic acid, and the intestines were replaced, the lines of suture being inspected as they were encountered. The wound in the middle line was closed with heavy silk sutures, passing through the entire thickness of its walls, and superficial catgut sutures. The incision in the bullet wound was sewed up in the same way, a drainage-tube being left at its lower end. An iodoform and borated cotton dressing was applied.

The operation lasted two hours. The ether was not well borne. Shortly after commencing, the pulse was 112, the respiration 38; at the end of the first hour, pulse 132, respiration 44; at the end of an hour and a half, pulse 140, respiration 52. At this time the breathing stopped for a moment, artificial respiration was resorted to, and the legs elevated for the remainder of the operation. At its close the pulse was 134, the respiration 39. Whisky, one drachm, and tincture of digitalis were several times injected subcutaneously, and, on the patient's being placed in bed, a hot-air bath was given and continued two hours. His strength improved rapidly. Six hours later a cold-water coil was applied.

November 4th, 9 a. m. (fourteen hours after the operation), pulse 120, respiration 27, temperature 99·5°. He had had cracked ice by the mouth, two enemata of Valentine's beef-juice and whisky, four hypodermic injections of whisky and digitalis, and seven minims of Magendie's solution in two injections. He had passed three ounces of urine (sp. gr. 1·024, acid, no albumin, many hyaline and few granular casts). He complained of slight pain and constant thirst, and had slept little. He had occasionally had hiccough, and had twice vomited a dark-green, odorless fluid.

9 p. m., pulse 108, respiration 29, temperature 99·5°. He had had ice, Vichy-water in teaspoonful doses, two nutritive enemata, and fifteen minims of Magendie's solution in three injections. He had vomited the same green matter four times, and had pain afterward, but at no other time. He had slept several hours. A few teaspoonfuls of beef peptonoids, and from half an ounce to an ounce of water, had been given by the mouth, but they had been discontinued. His pupils were normal; his tongue was moist, but coated; his abdomen tender, but not swollen.

Second Day, 9 a. m.—Pulse 92, respiration 26, temperature 99·5°. He had had by the mouth Vichy and hot tea, with milk, but no sugar (in teaspoonful doses); by the rectum, two enemata of Valentine's beef-juice, and whisky; hypodermically, twelve minims of Magendie's solution. He had slept several hours, and on awaking was bright and cheerful, complaining only occasionally of pain. Urine, 30 ounces.

6 p. m., pulse 92, respiration 20, temperature 101°. He had had two enemata of beef peptonoids and whisky (all, thus far, had been retained), and fifteen minims of Magendie's solution in two injections. He had vomited twice a brownish fluid. There was more abdominal pain, with slight swelling and tenderness. The wounds were normal. The ice-water coil was continued. A rectal tube was introduced to relieve tympanites. Urine, 19 ounces.

Third Day, 9 a. m.—Pulse 80, respiration 17, temperature, 100·5°. He had had beef-tea, Vichy, and hot tea by the mouth; two enemata; and fifteen minims of Magendie's solution in two injections. He had vomited twice, and had a desire to evacuate the bowels. He still had pain, and the abdomen was tender and slightly distended. 6 p. m., pulse 84, respiration 18, temperature 101°. Drainage-tube removed.

Fourth Day, 9 a. m.—Pulse 84, respiration 17, temperature 100°. During the last twenty-four hours he had vomited three times a small quantity of brownish fluid. The alimentation had been as before, with the addition of small doses of dry champagne, and he had had fifteen minims of Magendie's solution. He had slept much, but was restless when awake, and had little pain, but desired to have a passage. The tongue was moist, and the abdomen less distended. 6 p. m., pulse 87, respiration 17, temperature 102°. He had had fifteen minims of Magendie's solution, had vomited twice, and was irritable. After an enema of soap and water there was a free, watery, ill-smelling movement, containing small fæcal masses.

Fifth Day, 9 a. m.—Pulse 84, respiration 17, temperature 101·5°. 6 p. m., pulse 84, respiration 24, temperature 102°. He had had thirty minims of Magendie's solution, and nourishment as before, but two enemata. There had been three evacuations, similar to the first one, fluid, but not watery, fœtid, and containing little flakes and masses of fæcal matter. He had vomited three times. There was suppuration about two of the sutures in the abdominal wound.

Sixth Day, 9 a. m.—Pulse 82, respiration 18, temperature 101°. 6 p. m., pulse 76, respiration 18, temperature 101°. He had had one thin movement, and had vomited brandy and soda, and also bismuth-and-opium powders, but had retained plenty of peptonized milk, champagne, and beef-tea, and there had been less pain. The wound about the sutures was swollen, and, on taking out several of them, there was found a collection of pus external to the peritonæum. It communicated with the tracts of the sutures. The pus was not decomposed. All the sutures were taken out but the two or three upper ones; the wound was stuffed with carbolized compresses, and the cold-water coil was withdrawn. The bullet wound was likewise slit open through a part of its extent.

Seventh Day, 9 a. m.—Pulse 84, respiration 20, temperature 99·5°. 6 p. m., pulse 84, respiration 18, temperature 100°. There had been two dark-colored passages of pasty consistence, he had vomited once or twice very small quantities of the contents of the stomach, and he had had occasional pain. The abdomen was no longer swollen. The wound gaped widely, but was granulating except at one or two points. The urine was similar in character to that found before. It averaged forty ounces daily. The tongue was natural. He had had six minims of Magendie's solution in the twenty-four hours.

Eighth Day, 9 A. M.—Pulse 82, respiration 20, temperature 99°. 6 P. M., pulse 86, respiration 20, temperature 100°. There had been three movements like the last mentioned in the last forty-eight hours, but no vomiting and no decided pain. He complained only of being hungry, and of the discomfort of lying on the back. The abdomen was normal but for the wounds, which were granulating.

From this time the patient's convalescence was uninterrupted. The passages became less frequent and more solid. From the fifteenth day they were about natural. He vomited on the eleventh day, and twice on the twelfth, but never afterward. His appetite was excellent, and on Thanksgiving Day, twenty-four days after the operation, he ate the sumptuous repast provided, including plum-pudding. Several sinuses which formed in the granulating wound required slitting up, and a large number of skin-grafts were applied on two occasions. After the carbolic acid, Peru balsam, and, afterward, iodoform dressings were employed. At the end of eight weeks the large wound was cicatrized. He was discharged December 31st. The cicatrix was firm, but it is growing softer, and he is wearing a strong abdominal supporter. The functions of the alimentary canal are performed normally, and he feels, and apparently is, in good health. The urine, however, presents the same morbid products that it did during his treatment.

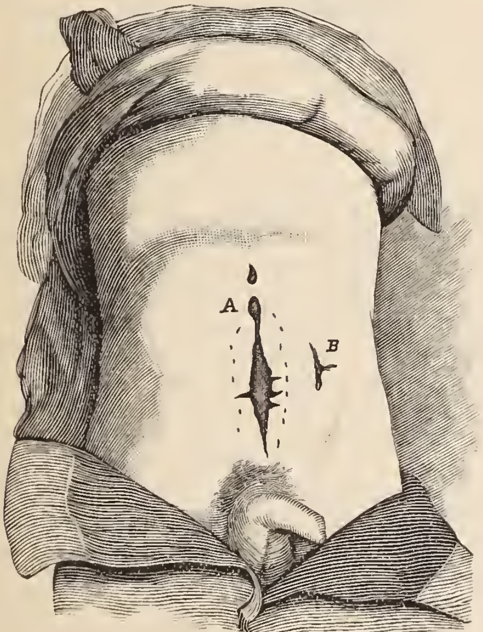

Fig. 5.—Showing the cicatrix of the abdominal section (A) and that of the bullet wound (B), three months after the operation.

I am not prepared at the present moment to do more than submit for your consideration the facts contained in this history. To discuss further details, such as the indications for operation, the technique, the antiseptics, and the management of all varieties of visceral wounds, would be beyond my present purpose. I hope to have an opportunity for that at a later date, when I shall report a case of wound of the liver with great hæmorrhage, in which the patient died before the operation was completed. But I desire now to call attention to the fact that operative interference for gunshot wounds of the abdomen has been put to a practical test, and that it has been successful. And I hope that other members of this society may share my conviction, that this plan of active treatment is now justified by these two successful cases, and that it should be adopted (within proper limits) to the exclusion of the "let-alone" policy.

THE EARLY USE OF THE KNIFE IN ANGIOMATOUS NÆVI AS COMPARED WITH OTHER METHODS OF TREATMENT.*

By SAMUEL W. SMITH, M. D.

Mr. President and Fellows of the Association: In presenting this paper to your consideration, I will at the outset express my decided preference for the early and more general use of the knife in dealing with these troublesome and unsightly vascular growths which appear on the face of infants and so rapidly increase in size. I am aware that this will seem to you a bold position to take, antagonistic as it is to many eminent and trustworthy authorities; nevertheless, we are here for an interchange of views gathered from actual experience, regardless of their conflicting relation to the theory and practice of others. Facts are stubborn things, and we can not afford to ignore them, however unwelcome they may be. It is not necessary that I should consume your time with a review of the various plans of procedure recommended by others, such as the application of caustics, the use of coagulating injections, ligature, electrolysis, acupressure, hot needles, etc. I concede that all these have their respective advantages and disadvantages; but none, I firmly believe, is so immediate in good results as the use of the knife, while in my opinion they are more fraught with danger by the absorption of some putrescent material. I use the term *angiomatous nævi* without particularizing the exact pathological character of these growths, as to whether the venous or arterial elements predominate, for it not infrequently happens that the two exist in equal proportions. The rapidly increasing size of these tumors with the growth of the child makes their treatment at an early stage of development a matter of considerable importance, whatever may be the course of treatment adopted for their removal. I have seldom met with a case where I should have hesitated to apply the knife from a lack of confidence in the results.

The following two cases are selected from those of a number of patients, treated by me at Demilt Dispensary, suffering from these vascular growths. I have selected them for my paper because at an early date in their history I saw them and proposed an operation with the knife, when the tumors were comparatively small. I think the history of these cases will speak more forcibly and conclusively than I can write in vindication of the early use of the knife in angiomatous nævi, as compared with other modes of operation for their removal.

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* Read before the New York State Medical Association, November 20, 1884.

Case I.—*Angiomatous Nævus of the Face successfully removed with the Knife after some other Method had been tried, endangering the Life of the Patient.*—Mamie T., aged eight months, born of healthy parents, in October, 1883, was brought by her mother to Demilt Dispensary, when four months old, for advice in relation to a birth-mark and small tumor on the side of the face. The mother informed me that she first noticed the swelling underneath the birth-mark some two months previously, and that it seemed to be getting larger. Examination showed the following conditions: The wine-mark was of about the size of a twenty-five-cent piece, and situated just below the zygoma and in front of the tragus; the tumefaction, of about the size of a hickory-nut, was not adherent to the skin, soft and inelastic to the touch, compressible, and increased in size whenever the child cried. I advised the immediate removal of the tumor with a knife, but the mother refused to have it done at that time, and left the dispensary. One month later the mother returned with her child—the tumor had perceptibly increased in size—and said she would have me remove the tumor if I would use hot needles. Hot needles were not used, and she left the dispensary, to return again three months later, under the following circumstances: Some two or three weeks prior to her second return to the dispensary she had evidently found some one who had carried out her plan of treatment for the removal of the tumor and birth-mark. I will not repeat the history of the operation as given to me by the mother, lest I do injustice to some surgeon or institution. Suffice it to say, the child was brought back to me simply an object of pity, suffering intensely from the effects of some kind of operation. The whole side of the child's face was swollen to an extreme degree, completely closing one eye, and extending over the side of the forehead into the scalp. The wine-mark had disappeared, and instead there was a dark-grayish ulcer, with thick bands of gangrenous connective tissue covering the tumor, which had increased to the size of a walnut. The carotids were throbbing, the respiration was hurried, the pulse was not easily counted and irregular, with a temperature of 103° (axillary), frequent attacks of vomiting, and a tendency to stupor. I carefully syringed out the ulcer with a solution of bichloride of mercury, 1 to 2,000, and with a pair of scissors cut away a number of gangrenous connective-tissue bands, which brought into view several pockets of pus. Thoroughly syringing these out, I carried my dissection a little farther, when a mulberry-like mass, containing a number of large blood-vessels distended with venous-colored blood, rolled up, and there was a rather profuse hæmorrhage. Passing a double ligature with an aneurysm needle underneath the tumor, I crossed the ligatures and firmly tied them on either side, completely controlling the hæmorrhage. The greater portion of the mass above the ligature was cut away, and the wound thoroughly cleansed with the bichloride-of-mercury solution. Twenty-four hours following the operation the patient had very much improved. The tendency to vomit had disappeared. The temperature had fallen to 100·5°; the respiration was nearly normal; the pulse was 110 and regular. A few drops of whisky in a little lime-water were given for a few days after each nursing. From this time on the patient did well. The wound was thoroughly cleansed twice a day with the bichloride-of-mercury solution, and dressed with vaseline. At the end of the seventh day the ligatures, with the remainder of the tumor, came away, leaving a healthy granulating wound, which healed kindly, and left no vestige of the tumor to be seen or felt.

Case II.—*A Large Angiomatous Nævus of the Upper Lip of a Child Three Months Old successfully removed with the Knife.*—Florence P., aged three months, born of healthy parents, was brought by its mother to the dispensary April 1, 1884, for advice in relation to a small tumor of the lip, accompanied by a wine-mark. The mother informed me that, when the child was born, she noticed that the lip was stained with the wine-mark, and that five or six days later she noticed a small, hard lump on the lip. This tumor, though small at first, increased rapidly in size until, at six weeks old, when the child was brought to the dispensary, it was about as large as a common marble. Examination showed that the tumor involved all the tissues of the lip. It was compressible and doughy to the touch, and enlarged whenever the child cried; it was not pulsatile in character, and the wine-mark discolored the mucous membrane as well as the skin over the lip.

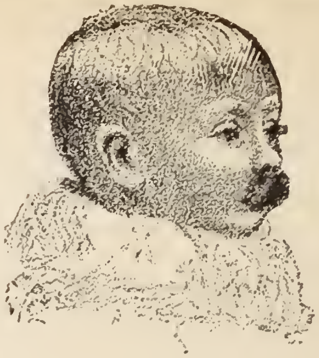

Fig. 1.

I recommended to the mother the removal of the tumor by an operation with the knife. This she refused to permit, and took the child away without further counsel. On April 29th she returned to the dispensary with the child, asking advice in relation to a hæmorrhage which had developed in the tumor, and which was the result of an operation elsewhere. She could not give me a correct account of what had been done to the child since its previous visit to the dispensary, but said that it had been taken to a clinic somewhere in the city, where an operation with hot needles or similar appliances had been performed. Since this operation the child had refused to nurse, and become very feverish. Ulceration had set in, followed by this excessive hæmorrhage, and this so alarmed the mother that she decided to go again to the Demilt Dispensary. The appearance of the child was very bad. The respiration was rapid, the temperature 102° (axillary), and the child subject to frequent attacks of vomiting. In examining the tumor, I discovered a small pocket of pus beneath the skin, which seemed pent up and overlain by a thick scab. I removed the scab, thoroughly cleansed the cavity with a solution of bichloride of mercury, 1 to 2,000, and then applied a light compress saturated in a strong solution of tannic acid. This controlled the hæmorrhage. I informed the mother that if the child got over its present fever I would operate by removing the tumor entire. The lip seemed so unsightly to her that she said she would rather the child should die under an operation than live in its present condition. I therefore gave preparatory treatment, and in the course of five or six days the child had so far recovered that I decided to operate on the following Sunday at my office. A cast of the tumor, and this photograph, which I here show you, were taken on the Saturday before the operation. The tumor was now enlarged to the size of an English walnut.

The child was in fair condition. The fever had abated, and she was able to retain food upon the stomach, although very anæmic from the loss of blood resulting from the former operation. On June 8th, in the presence of Professor J. W. Wright and my assistants, Dr. Segur and Dr. Carpenter, I placed the little patient under ether and proceeded to operate. I cut away about four fifths of the entire lip, leaving as much of the vermilion border and of the orbicularis oris muscle as I could, in order to assist in the formation of a new lip. During the operation the coronary arteries were held by my assistants, so that there was no great loss of blood. After removing the tumor I dissected up the edges of the integument on either side, and brought the parts together, using one hare-lip pin, and uniting the edges of the wound by fine catgut sutures. The after-dressing was a piece of lint laid over the wound and kept moistened night and day, by the aid of a drop-glass, with a solution of bichloride of mercury, 1 to 2,000, for the first forty-eight hours.

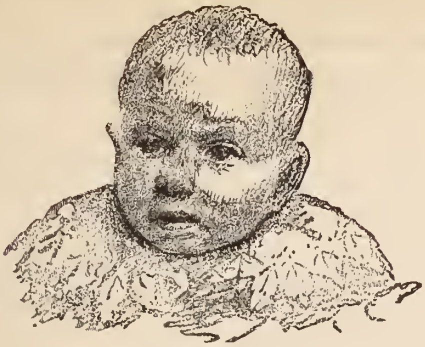

Fig. 2.

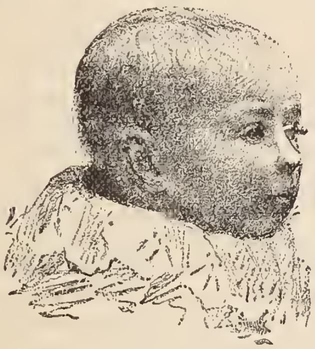

Fig. 3.

On June 10th I removed the hare-lip pin without disturbing the dressing. On June 15th I removed the dressing and found the wound united by first intention. On the same day I allowed the babe to nurse its mother, which it did readily and well. This photograph, which I now pass for your inspection, was taken ten days after the operation.

TWO CASES OF POISONING BY "ROUGH ON RATS."

By L. T. DAY, M. D., Westport, Conn.,

LATE HOUSE SURGEON TO THE CONNECTICUT GENERAL HOSPITAL, NEW HAVEN.

Case I.—I was hastily summoned, at 10.30 p. m., on December 27th, to see Mr. H. and his son, and learned the following history:

J. H., aged fifty-three, a fish-dealer, is a robust, healthy man, little subject to sickness.

December 26th, about 5.30 p. m., he ate very freely of smelts prepared in the following manner:

Taking from the pantry-shelf a pie-tin on which was a piece of meat rolled in "Rough on Rats," he tossed the meat to the dog, thinking it had been cooked. There was also quite a layer of the poision on the tin, and, supposing it was flour, he added more flour to it, and then proceeded to roll the fish in the flour and poison.

After supper he went to his place of business as usual, and smoked a cigar. In about half an hour he felt sick at his stomach. Thinking, perhaps, it was the cigar, he laid it aside, but in a few minutes he vomited profusely.

At 8 p. m. he went home, where he again vomited, became dizzy, and had an intense headache. During the night he vomited three times more, and his bowels moved once. He passed a restless night.

27th, A. M.—He felt dizzy, and had some headache and a tired feeling in his legs, as though they were going to slip from under him.

He attended to business as usual, and about noon took two compound cathartic pills. He thought he had a "bilious attack."

At 10.30 p. m. I saw the patient for the first time and learned the facts stated above. He was lying on a sofa with his head tied up. His face was flushed, and he complained of headache, soreness in his bowels, weakness of his legs, dryness of the mouth, and great thirst. Pulse 82, strong; slight fever. As he seemed quite comfortable, with the exception of headache, not having vomited during the day, I gave him twenty grains of bromide of potassium.

28th, 8 A. M.—On attempting to rise he was so dizzy that he went back to bed, but rose later in the day. He had some headache, and his pulse was 80.

P. M.—Has had profuse watery diarrhœa during the day, the bowels moving every half or three quarters of an hour. Complains of great dryness of the mouth and a burning sensation in the stomach. Has not vomited, and has eaten nothing. I gave him milk to drink, prescribed nothing for the diarrhœa, but continued the bromide.

29th, A. M.—Feels considerably better, and the diarrhœa has ceased. In the afternoon he went to New York, as usual, on business.

Case II.—W. H., a son of the first patient, aged sixteen, pale and anæmic, was subject to considerable sickness during his early years.

December 26th, at 5.30 p. m., he ate from ten to twelve of the fish as prepared by the father, and in about three quarters of an hour vomited; he then went to church (his mother, thinking he had overloaded his stomach during the Christmas festivities, was not alarmed at the symptoms) at 8.45 p. m. He felt sick, came home, and vomited six or seven times during the night.

27th, A. M.—Felt very dizzy and weak; vomited during the day ten or twelve times; bowels quiet. About noon he took two compound cathartic pills, which did not operate.

I found him, at 10.30 p. m., sitting in a rocking-chair, with a bowl in his lap ready to vomit. Pulse 84; temperature 99° F.; face flushed, with the eyelids puffed out, and the conjunctiva congested. He complained of headache, pain in the stomach and bowels, weakness of the legs, and great thirst. Suspecting arsenical poisoning, I gave the following:

℞ Tinct. ferri chlorid.	f ʒ ss.;
Sp. ammon. aromat	f ʒ j;
Magnesiæ	ʒ ss.;
Aquam	ad f ℥ ij.

M.

This I prepared from my medicine-case as a substitute for the hydrated sesquioxide of iron. I gave him one half of the mixture, which he retained about fifteen minutes. I then got him to bed, put a large mustard-paste over the epigastrium, and gave him minute doses of calomel every half hour for the vomiting, with ice for the thirst.

28th, A. M.—Passed a fair night, with no vomiting. Pulse 60; temperature 97·5° F.; tongue badly coated; breath very offensive; pain in the stomach; abdomen retracted, with tenderness on palpation. Gave at 11 A. M. two tablespoonfuls of castor-oil with an equal quantity of lemon-juice. This he retained until 1 P. M., when he vomited about a pint of liquid as green as grass.

5 P. M.—No movement of the bowels as yet, and no more vomiting. Pulse 80, and very weak. Ordered brandy every two hours, and a drachm of the sediment of the iron mixture every two hours.

9.30 P. M.—Considerable pain in the stomach and bowels. Kept up the mustard-paste, and ordered an eighth of a grain of sulphate of morphine every hour until he was comfortable.

29th, A. M.—Passed a comfortable night, sleeping about six hours. Pulse 72, very weak. Very little pain in the bowels. Gave two rectal injections, with no effect.

30th, A. M.—Gave two compound cathartic pills.

12 M.—Gave a high rectal injection of soap and water, with the tube introduced twelve inches. He retained the injection about fifteen minutes, when he had a large watery movement, which resembled as much as anything a decoction of sea-mud, and was very offensive.

9 P. M.—Has had two more movements, the last one of a more natural character. The brandy and the iron mixture to be kept up.

31st, A. M.—Feels decidedly better to-day, having no pain and no more passages.

Pulse 72. Ordered three grains of sulphate of cinchonidine three times a day. The iron mixture to be stopped. He sat up a short time.

January 1st, A. M.—Pulse 70, stronger. Ordered two drops of tincture of nux vomica every four hours, to clear the tongue and promote the appetite. He sat up for two hours.

2d, A. M.—Gave two drachms of compound licorice powder. He ate a fair breakfast. The bowels moved naturally toward night.

3d, A. M.—Found the patient dressed and sitting up, feeling quite like himself. He ate ravenously. The eyelids were still somewhat puffed up. Patient discharged.

It seems strange that the true nature of the trouble was not ascertained until some thirty hours after the victims had eaten the poison, when Mrs. H. happened to ask what Mr. H. had been doing with that pie-tin. When he told her, she exclaimed, "My God, that's poison!"

The wife and one boarder, not being hungry, were saved the dangerous consequences of a stomachful of "Rough on Rats."

In Case I the food was very imperfectly masticated, owing to the patient's teeth being decayed and few in number, so that the poison did not become thoroughly disseminated and as much absorbed as in Case II; hence the mild attack as compared with that in Case II.

On December 30th, in order to satisfy myself as to the precise poisonous ingredients in the "Rough on Rats," I wrote to the chemist and proprietor, Mr. E. S. Wells, of Jersey City, asking him to give me the names of the poisonous ingredients, and received the following reply:

"Jersey City, N. J., *December 31, 1884.*

"*Dr. L. T. Day.*

"Dear Sir: If you treat as for arsenical poisoning you will hit it, in so far as actual poisoning is concerned.

"Respectfully, E. S. Wells."

There ought to be a law compelling manufacturers of poisons for general use to print on the label of packages containing such poisons the name or names of the most toxic agents of the compound, thus enabling physicians to treat cases of poisoning more intelligently and successfully.

Book Notices.

A Manual of Dermatology. By A. R. Robinson, M. D., L. R. C. P. and S. Edin., Professor of Dermatology at the New York Polyclinic, etc. New York: D. Appleton & Co., 1885. Pp. 647. [Price, $5.]

Although Dr. Robinson modestly states in the preface to this work that it is intended to be the basis of another, which shall be larger, more pretentious, and more original, we consider it to be, as it stands, a most meritorious book and a highly creditable addition to our stock of dermatological text-books. The author has been known for a number of years, both by articles published in the journals and by the part he has taken at the meetings of the New York Dermatological Society and the American Dermatological Association, as one who never accepted opinions at second-hand, but always worked out subjects for himself, and was given to defending his conclusions with the tenacity that springs from well-founded convictions. Such a man is just the one to write a text-book, provided he has also the art of teaching, and this art Dr. Robinson has shown that he possesses.

Dermatology is one of the departments of medicine in which Americans have most distinguished themselves within the past fifteen years, and it is now no easy matter for an individual American to write much on the subject that is altogether original; but the amount of originality that is to be found in this book is surprising. It is most conspicuous in the matter of pathological anatomy, and is well exemplified by the fact that sixty-five of the eighty-eight illustrations represent the results of the author's own researches, as well as by his marked personal views of sycosis, pompholyx, trichophytosis, lichen ruber, lichen planus, sudamina, comedo, milium, herpes, pemphigus, and a number of other diseases, and of the nerve terminations in the Pacinian corpuscles. Miliaria is classed with papular eczema; lichen planus is considered as an inflammatory affection, and lichen ruber as an hypertrophy of the epidermis—a paratypical keratosis; but perhaps the most noteworthy of the author's views on pathology is the one that places psoriasis among the hypertrophies of the epidermis, making it a hyperplasia of the rete—a doctrine that was originally maintained by Dr. Robinson, and is now very widely accepted.

Turning from pathology to ætiology, diagnosis, and treatment, we find them treated of in an equally satisfactory manner. The descriptions of the various diseases are full enough for the practitioner's purposes, but not over-burdened with details that would be of interest only to the specialist. In the matter of treatment, Dr. Robinson is not an adherent of any "school"; both general and local measures are fairly appreciated by him. In the management of eczema and psoriasis, he lays stress on the necessity of giving alkalies, and he makes the degree of activity of the inflammatory process the guide to the local treatment of eczema. Principles and indications are thoroughly inculcated, and they are of far more service than all the formulæ that were ever written.

Although concise, the work is a complete text-book, and contains much more than is to be found in most treatises of its class. While it is likely to prove of great value to the professed dermatologist, it is eminently a book for general practitioners and students, and its points of excellence are so many and so pronounced that we look to see it become a general favorite.

BOOKS AND PAMPHLETS RECEIVED.

A Manual of Organic Materia Medica. Being a Guide to Materia Medica of the Vegetable and Animal Kingdoms, for the Use of Students, Druggists, Pharmacists, and Physicians. By John M. Maisch, Phar. D., Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Second Edition. With Two Hundred and Forty-two Illustrations. Philadelphia: Lea Brothers & Co., 1885. Pp. xxxix–511.

The Induction Coil: its Varieties and the Differential Indications for their Use. By A. D. Rockwell, M. D. [Reprint from the "Medical Record."]

Fourth Annual Report of the Secretary of the State Board of Health of West Virginia (preliminary), for the Year ending December 31, 1884.

Correspondence.

LETTER FROM BOSTON.

The Boston City Hospital.

Boston, *February 9, 1885.*

The old saying in regard to the holders of hospital appointments, that "none resign and few die," does not hold true of the Boston City Hospital. The *medical* staff has changed pretty constantly ever since the date of its organization, so that at present only two of the original appointees remain on duty. With the *surgical* staff, however, it has been different. Previous to last year the latest appointee was Dr. George W. Gay, who has held the position of junior surgeon for about twelve years; but during the past few months three vacancies have occurred.

The first change was by the resignation of Dr. William Ingalls, who during the war rendered faithful and meritorious service as medical director in one of the army corps of the Army of the Potomac. The vacancy caused by his resignation was filled by the appointment of Dr. W. P. Bolles, who has been connected with the hospital as house surgeon, pathologist, and surgeon to out-patients, for many years. Within the past month two more vacancies have occurred. One was caused by the resignation of Dr. W. C. B. Fifield. The other vacancy was caused by the death of Dr. William H. Thorndike.

Three years ago, while performing an operation, Dr. Thorndike poisoned his hand, and lymphangitis and cellulitis followed. After a long convalescence he was able to attend to his business, but never with the same energy as before. He had been troubled with a cough all the winter, but continued about his work till he contracted pneumonia, from which he died within forty-eight hours of the premonitory chill.

Dr. Thorndike was known all over New England as a skillful operator; in fact, many of the boldest operations ever done in our city were performed by him.

The vacancies caused by Dr. Fifield's resignation and Dr. Thorndike's death have been filled by the appointment of Dr. Edward H. Bradford, whose name is familiar to the readers of the Journal through his contributions to orthopædic surgery in your columns, and that of Dr. Abner Post, Associate Editor of the "Boston Medical and Surgical Journal."

Both these gentlemen have been surgeons to out-patients, and were considered in the line of promotion. The vacancies in the Out-Patient Department have been filled by the appointment of Dr. M. F. Gavin, who for seven years has occupied the position of trustee to the hospital, and by that of Dr. H. L. Burrill, formerly house surgeon to the hospital, and of Dr. F. H. Watson.

Changes have recently been made in the manner of appointment in the Out-Patient Department of the hospital. Before, in the special departments (except the ophthalmic and gynæcological), there was a physician who had charge throughout the year, and an assistant who did the work when his chief desired it. Now the trustees have made these "assistants" "associates," having equal privileges, seniority being the only difference.

Heretofore the management of the hospital has been kept tolerably free from political interference, but the present indications are that the politicians will have the naming of three incoming trustees, who will conduct the institution not so much as a hospital as a party machine.

In the past the power of selection for staff appointments has been vested in the staff, they sending two names for each position to the trustees, who confirmed the appointment of one of the two selected, generally taking the first name presented. The amendment of rules changing this privilege, and giving the power wholly to the trustees, can only be made by a three-fourths vote of the trustees, and, as this body stands to-day, it can not be done, a number believing that the hospital staff can better manage its own affairs without any outside help, while others, the minority at present, think that new appointments come from too limited a circle. The reigning party in the present city government desires to appoint to the vacancies men who will vote for this change. There is, however, a split in the party which has the majority, and in other city appointments the minority, with a few disaffected from the other side, have controlled matters; and, as the same factors are to be employed in the appointing of two of the three trustees, the fight is watched with interest by those who have the welfare of the institution at heart, for the future control of the hospital depends upon the issue.

LETTER FROM WASHINGTON.

Medical Legislation.—Young Women at Clinics.

Washington, *February 9, 1885.*

The results of medical legislation this winter have, up to this time, been entirely negative. The bill of the most interest to the profession—that providing for the erection of the Army Medical Library and Museum—still slumbers on the Speaker's table, which this session promises to be a mausoleum for the waifs lying thereon. Mr. Stockslager, the Chairman of the Public Buildings Committee, has been successfully antagonized by Mr. Randall, the Chairman of the Committee on Appropriations, and the opportunity has thus been cut off by which the bill could have been brought up. As there remain only twenty days for legislation, its prospects look dark; although a determined effort may bring it up, medical men interested in this great national library should make themselves heard on the question now.

The Health Conference bill has again been introduced into the House, this time by Mr. Ward, of Indiana. The bill was referred to the Committee on *Agriculture!*

Coeducation of the sexes prevails here. At a surgical clinic at one of the hospitals recently there were four young ladies present with the class. The subjects for instruction on that occasion were three cases of fistula in ano and two of phimosis. The fistulæ were cut, and the elongated prepuces duly abbreviated in the presence of the class, but the young women, it is said, have not since been regular attendants.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by
D. Appleton & Co.
Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, FEBRUARY 14, 1885.

ABDOMINAL SURGERY IN GENERAL HOSPITALS.

A late number of the "Lancet" contains a brief and unassuming article by Mr. J. Greig Smith, of Bristol, in which he mentions twenty-five laparotomies, performed in the infirmary of that place, with only one death, and that due only indirectly to the operation. The writer states that the operations were done in the general operating-theatre, and no restriction whatever was put on students or visitors who might care to be present; but he adds this important statement, that "in all these cases *Listerism was observed in its fullest details.*" This short paper is only one of many such as are hidden away in medical journals, and do not receive the thoughtful attention of readers, merely because so small a number of cases is reported. It is a great mistake to infer that because a man reports only a few cases his deductions may not be quite as valuable as those drawn from the results of a long series of operations. In proof of this the reader is referred to an elaborate paper by Terrier (in the "Revue de chirurgie" for January), founded upon his last twenty-five cases of ovariotomy.

The point in Mr. Smith's statistics is that they seem to form a powerful argument in favor of Listerism, especially in peritoneal surgery. If this were an isolated case we might ascribe the English surgeon's success to his good fortune, or to the fact that he "chose his cases," but the practice of performing laparotomy in general hospitals is one that has become quite common in our own country. If the truth were known, the statistics are not bad either. Mr. Tait appeared to think that there was need of more centralization, so to speak, in our abdominal surgery, but he might have added that there was need of more cleanliness. Probably no surgeons understand the principles of antiseptics better, and carry them out worse, than Americans. Fluctuating as they do with every change of foreign opinion, now for, and now against certain systems, it is not always easy to tell to which system of antiseptics they give the preference. Some operators have abandoned the spray entirely, others employ it in an irregular and half-hearted way, and many who believe in it feel called upon to apologize for their attachment to an ancient superstition.

It is not our intention to engage in the old discussion of the merits and demerits of Listerism, but we simply desire to put this question: If in large general hospitals, in which the hygienic surroundings are none of the best, abdominal sections are not only daily performed, but, through strict attention to antiseptics, are successfully performed, is it not well to give the patient this chance on *every* occasion? Mr. Thornton has been sneered at because he insists on excluding from his operations spectators who have been exposed to septic influences, but the majority of American operators not only do not guard against this danger, but do not try to neutralize the evil results by such a simple means as the spray. No matter if a man does report a brilliant series of cures without the use of a single germicide, there is such a thing as doing one's whole duty to the patient, and, by a few simple precautions, at least increasing her chances of recovery. The statistics of general operators should not be disregarded by specialists, since the lesson is a most valuable one.

ABSCESS OF THE LIVER.

This affection seems to have attracted considerable attention of late, not only in New York but abroad.

From the fact that Dr. Janeway, whose article we published in the last issue of the journal, refers to eight cases which came under his observation within a period of a few months, we should be inclined to draw the inference that the statement made in Reynolds's "System of Medicine," that "suppurative inflammation of the liver is a rare disease in temperate climates," is not strictly true, especially as Dr. Janeway informs us that he has met with two other cases since his paper was written. Dr. Janeway, contrary to a recent Italian writer, refers many cases of suppurative hepatitis to a traumatic origin. The latest foreign communication upon this subject is contained in an article by Ughetti, in the "Rivista Clinica," entitled "L'Epatite Suppurativa." After an elaborate study of the disease from all standpoints, and a careful analysis of a large number of published cases, the author draws the following conclusions, some of which appear to be at variance with those of Dr. Janeway: Suppurative hepatitis is not a rare disease in southern Italy; traumatism is the *rarest* cause of abscess of the liver, dysentery being the most frequent. In case of doubt it is always better to practice exploratory puncture; a radical operation should be at once resorted to as soon as the diagnosis is confirmed. It is not necessary to secure peritoneal adhesions before incising the abscess.

Whatever differences of opinion there may be as to the ætiology of suppurative hepatitis, it seems to be pretty generally agreed that the true treatment is a prompt evacuation of the abscess, with the establishment of free drainage. As Dr. Janeway justly points out, the question turns principally upon the matter of diagnosis, as the condition is frequently very obscure. Doubtless many cases of abscess of the liver have gone unrecognized by observers not possessed of his acumen.

THE POSITION OF FOREIGN MEDICAL STUDENTS IN PARIS.

The French medical journals, having agitated themselves to no purpose over the question of whether women should be admitted to the competitive examinations at the hospitals, have now developed an equal amount of warmth in regard to the propriety of allowing foreign students the same privileges that are accorded to Frenchmen. The "Union médicale" displays a degree of liberality, as well as common sense, that does credit to that excellent journal; but we have observed sentiments expressed by one of the other Paris journals which were marked by a very narrow and selfish tone. The effect of some of these absurd utterances, if they should ever become embodied in the form of laws, would be to destroy whatever of prestige the Paris School of Medicine still possesses in the eyes of foreign students, and to add to the rapidly increasing numbers of those who are deserting the French school for the more liberal institutions of Germany.

It would certainly be just to oblige all foreigners to contend for prizes under precisely the same conditions as the native students; but to proscribe foreigners entirely from the *internat* would be a narrow policy, and one that would tend to rob Paris of whatever influence she now possesses in the medical world. We can not believe that this is the policy of a free-hearted, generous nation.

THE SANITARY CONDITION OF ST. LOUIS.

An interesting pamphlet upon this subject has been published by the Commercial Club of St. Louis, in which cholera epidemics are traced directly to impure water. A careful study is made of the sanitary condition of the city, and the ground is taken that St. Louis is not prepared for a visitation of Asiatic cholera, or rather is "prepared in the same sense that a city built wholly of wood is prepared for an outbreak of fire."

The means to be adopted for the prevention of the disease are thus summarized: All wells should be sealed up when it is possible, those which are left being carefully examined. In districts where sewers are not accessible, earth-closets or water-tight vaults, which can be readily emptied, should be the only ones permitted. Free public hydrants should be established in tenement-house districts. "In time of cholera," it is justly remarked, "it would certainly be cheaper to give the people water for nothing than to let them drink from wells."

Appended to the pamphlet is a useful table showing at a glance the total death-rate in various large cities of England and the United States in the epidemics of 1849, 1854, 1866, and 1867. The entire purport of this little paper goes to show that the sanitary engineers of St. Louis have resolved to make thorough work with existing evils in their city.

MINOR PARAGRAPHS.

KOCH'S LABORATORY.

A correspondent of the "British Medical Journal" writes an interesting letter upon this subject, which furnishes quite an insight into the routine work in the celebrated German bacteriologist's laboratory.

Dr. Koch is described as giving his personal attention to his students, who are nearly all his own countrymen. The class is small, and each man is expected to devote his entire time to the work. Teacher and students live together in the most intimate manner, and the former is said to be always kind and attentive. Not to quote in detail the methods of research in the laboratory, it may be enough to add that they are such as require a considerable knowledge of bacteriology, and hence the course is not one which is adapted for a novice.

"The few foreigners," says the writer of the letter, "who have had the privilege of obtaining permission from the German Government, are unanimous in their appreciation of Dr. Koch's obliging conduct, and of the immense amount of knowledge that they have acquired."

MEDICINE IN JAPAN.

We have received a unique little publication containing the transactions of the "Sei I Kwai," or Society for the Advancement of Medical Science in Japan, which gives a very favorable view of the progress of the healing art in that country. The first eight pages of the pamphlet are in English, the remaining fifty being in Japanese. The society is in a flourishing condition, possesses a library and museum, and numbers eighty-six members. The editor urges very strongly the advisability of encouraging the study of medicine in foreign languages, especially in English and German, since it will "hasten the coming of the time when Japan may begin, in a measure, to repay the debt that she owes to the Western world for the wealth of learning made available to her."

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 10, 1885:

DISEASES.	Week ending Feb. 3.		Week ending Feb. 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	2	0	0	0
Typhoid Fever	6	3	5	3
Scarlet Fever	95	10	89	19
Cerebro-spinal meningitis	6	6	7	6
Measles	163	35	107	33
Diphtheria	67	26	47	24

The Abuse of Medical Charity.—Dr. C. E. Nelson invites the general practitioners of New York to attend a meeting, to be held at his house, No. 109 East Thirty-fifth Street, on Wednesday evening, February 18th, at half-past eight o'clock, to consider this question.

"Gaillard's Medical Journal."—We learn that the publication of the journal founded by the late Dr. Gaillard will be continued by M. E. & E. W. Gaillard, who announce that they have secured an able corps of collaborators.

Dr. E. C. Spitzka has resigned the professorship of neuro-anatomy at the New York Post-Graduate Medical School and Hospital.

An Outbreak of Rinderpest in Poughkeepsie having been reported to the State Board of Health, the Assembly has granted an appropriation of $5,000 to be used in suppressing the disease.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 1, 1885, to February 7, 1885:*

Waters, William E., Major and Surgeon. Granted leave of absence for one month. S. O. 24, Department of the East, January 31, 1885.

Wilson, William J., Captain and Assistant Surgeon. Ordered for duty as Post Surgeon to Fort Preble, Me. S. O. 27, Department of the East, February 5, 1885.

Woodruff, Ezra, Captain and Assistant Surgeon. Ordered from Willet's Point, New York Harbor, to Department of Dakota. S. O. 30, A. G. O., February 5, 1885.

Taylor, Marcus E., Captain and Assistant Surgeon. Ordered to Department of the Missouri. S. O. 30, A. G. O., February 5, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service—January 1 to February 7, 1885.*

Stoner, G. W., Surgeon. When relieved, to proceed to Washington, D. C., for duty as chief of Purveying Division, January 16, 1885.

Benson, J. A., Passed Assistant Surgeon. When relieved, to proceed to Chicago, Ill., for duty, January 12, 1885.

Carmichael, D. A., Passed Assistant Surgeon. When relieved, to proceed to Cairo, Ill., for duty, January 3, 1885.

Ames, R. P. M., Passed Assistant Surgeon. When relieved, to proceed to New York, N. Y., for duty, January 14, 1885.

Urquhart, T. M., Passed Assistant Surgeon. To proceed to Norfolk, Va., and assume charge, January 12, 1885.

Brooks, S. D., Assistant Surgeon. To proceed to Evansville, Ind., and assume charge, January 14, 1885.

Carrington, P. M., Assistant Surgeon. To report to Surgeon-in-Charge, St. Louis, Mo., for temporary duty, January 17, 1885.

Long, W. H., Surgeon. Relieved at Detroit, Mich., to proceed to Chicago, Ill., and assume charge, February 4, 1885.

Godfrey, John, Passed Assistant Surgeon. To proceed to Vicksburg, Miss., and Memphis, Tenn., as inspector, February 6, 1885.

Bennett, P. H., Assistant Surgeon. To assume temporary charge of the service at Detroit, Mich., February 4, 1885.

Williams, L. L., Assistant Surgeon. To report to the officer in charge at Detroit, Mich., for temporary duty, February 7, 1885.

Resignation.

Miller, T. W., Surgeon. Resignation accepted by the Secretary of the Treasury, to take effect March 1, 1885. February 4, 1885.

Promotions.

Stoner, G. W., Surgeon. Promoted and appointed Surgeon by the Secretary of the Treasury, from January 16, 1885. January 14, 1885.

Godfrey, John, Passed Assistant Surgeon. Promoted and appointed surgeon by the Secretary of the Treasury, from March 1, 1885. February 6, 1885.

Appointments.

Carrington, Paul M., M. D., of Georgia, having passed the examination required by the regulations, was appointed an Assistant Surgeon by the Secretary of the Treasury, January 16, 1885.

Williams, L. L., M. D., of South Carolina, having passed the examination required by the regulations, was appointed an assistant surgeon by the Secretary of the Treasury, February 6, 1885.

Society Meetings for the Coming Week:

Monday, *February 16th:* New York County Medical Association; Medico-Chirurgical Society of German Physicians, New York; Hartford, Conn., City Medical Association.

Tuesday, *February 17th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and Westchester, N. Y.; Ogdensburg, N. Y., Medical Association.

Wednesday, *February 18th:* Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark).

Thursday, *February 19th:* New York Academy of Medicine; Roman Medical Society, New York (private); New Bedford, Mass., Society for Medical Improvement (private).

Saturday, *February 21st:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

OBITUARY NOTES.

Dr. Edwin S. Gaillard, whose death we briefly chronicled last week, had been a resident of New York for about five years, but during that brief period he made himself felt among the few whom his journal, the "Richmond and Louisville Medical Journal," had not before reached. For many years that journal was a power in the profession, more particularly in the southern and southwestern portions of the country. After it was transferred to New York, when its name was changed to "Gaillard's Medical Journal," it continued to exercise no small influence. We are glad to learn that its publication will be continued, a number of the deceased editor's colleagues having chivalrously volunteered to contribute to its pages.

Edwin Samuel Gaillard, M. D., LL. D., was a native of South Carolina. He was born in 1827, and received his academic education at the University of South Carolina. In 1854 he took his medical degree from the South Carolina Medical College, and in 1873 he received the degree of LL. D. from the University of North Carolina. During the late civil war he served with the Confederate army, and, after the close of the war, he established himself in practice at Richmond, where he founded the "Richmond Medical Journal." He subsequently settled in Louisville, where he continued the issue of his journal under the title of the "Richmond and Louisville Medical Journal." During his residence in Louisville he was at different times connected with two of the medical colleges of that city as a member of the faculty. After he came to New York the state of his health was such that for most of the time he was able to do little more than his editorial work.

Dr. Gaillard's personal qualities caused him to be held in warm esteem by those who knew him, and his professional acquirements commanded the respect of thousands who never had the pleasure of meeting him face to face. As an editorial writer he was a man of great power, and, as he combined the functions of editor and publisher, he was undoubtedly possessed of good business qualities.

Letters to the Editor.

THE MYSTERY OF THE ST. LOUIS CHOLERA MORBUS.

To the Editor of the New York Medical Journal:

Sir: The truth is that St. Louis is very much afraid of New Orleans, and with much show of justice. The cholera of 1848 and 1849 was landed in New Orleans as early as December 2, 1848, and the steamboat Amaranth brought it from there to St. Louis on December 27th, having thirty cases on board. On January 2, 1849, the Aleck and St. Paul arrived, one with forty-six cases, the other with twenty-six. From this beginning, and other arrivals, there were 4,317 deaths in 1849, 833 in 1850, 845 in 1851, and 802 in 1852. Cholera was scarcely absent from St. Louis a single month, summer or winter, during those four years. The great emigration to the gold fields in California was going on, and St. Louis was the grand starting-point for the trip over the plains.

There was no cholera in St. Louis in 1853, but in 1854 it was again brought up from New Orleans, and no fewer than 1,534 lives were swept away. Then she was free till 1866, when she received it both from New Orleans and from New York, and had 3,527 deaths, and 684 in 1867. Up to this time St. Louis had few or no water-closets or sewers, and depended almost exclusively upon surface wells for her water supply.

In 1873 cholera was imported into New Orleans as early as February 9th, and the St. Louis health authorities reported 3 cases of fatal cholera morbus in May, 35 in June, and the absurd number of 210 in July, while in August they reported 109 deaths from cholera morbus and 80 from cholera, not Asiatic; and in September 50 deaths from cholera morbus and 12 from non-Asiatic cholera. Quite late they admitted 392 deaths from Asiatic cholera, while others counted up 685.

St. Louis still has over 20,000 surface wells, although it has an abundant supply of hydrant water which the people are not obliged to take. It also has an equal number of out-door privies, and, although it is reasonably well sewered, the citizens are not forced to have water-closets with sewer connections. Hence the best citizens and medical men fear cholera, and also do not trust their health officers. They are making a determined effort to have all out-door privies and surface wells suppressed. J. C. Peters, M. D.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of January 27, 1885.

The President, Dr. R. F. Weir, in the Chair.

Epithelioma of the Penis.—Dr. C. K. Briddon presented a man forty years of age, who submitted to amputation of the penis by one of his colleagues in the Presbyterian Hospital in August, 1884. The operation was performed a short distance behind the glans. In October following, the patient entered Dr. Briddon's service at the hospital, and, on examination, it was found that there was a return of the disease in the stump, with induration of some of the inguinal glands. Dr. Briddon amputated the penis, according to the plan devised by Demarquay, by making two elliptical incisions, circumscribing the penis at the root and terminating in the peritonæum just in front of the anus. The perineal portion of the spongy urethra was then dissected from the corpora cavernosa, turned down, and stitched to the margin of the perineal wound about an inch in front of the anus. The penis, was then drawn forward and dissected from the pubes, hugging the front of the bone closely with the knife, and cutting off the crus from the ramus on either side. Dr. Briddon suggested that this step in the operation would be improved by hugging the crura of the penis with the knife as they joined to form the covering of the body, as in that way a greater length of blood-vessels would be insured outside the triangular ligament. The indurated inguinal glands were removed at the same operation. Union was retarded by faulty drainage. There was already evidence of return of the disease in the stitch-holes in the inguinal region, and possibly just above the scrotum, but whether the induration above the scrotum depended upon a return of the disease, or whether it was due to the induration surrounding the sinus which had existed for some time, he was not prepared to say, although it was probably due to the former. The patient experienced no difficulty in passing his urine, although he was obliged to take a sitting position when he emptied his bladder.

Dr. W. T. Bull referred to a case which he reported to the society about a year ago, in which precisely the same operation had been performed, and in which, although the inguinal glands were enlarged upon both sides, and were indurated, they disappeared altogether very soon after the operation. Already a year and a half had clapsed since the operation, and there had been no recurrence of the disease.

A Case of Gunshot Wound of the Intestines treated successfully by Laparotomy with Suture of the Intestines.—Dr. Bull then read a paper with this title. [See page 184.]

Dr. H. B. Sands considered Dr. Bull's case to be one of great value as a contribution to abdominal surgery, and as calculated to encourage a resort to operative measures in the treatment of penetrating gunshot wounds of the abdomen. Of course, it was desirable to avoid abdominal section, if possible, in desperate cases, and in cases in which spontaneous recovery seemed probable. In Dr. Halsted's case the operation was not undertaken with much hope of saving life. The most important question relating to practice was, how should the doubtful cases be excluded? The evidence of penetration of the intestine was in most cases uncertain. In very few instances, so far as his experience and knowledge went, even where the intestine was perforated, was there a demonstration of the fact by an escape of fæces or intestinal fluid from the opening in the abdominal wall. Dr. Bull, in his case, did not seem to have satisfied himself by probing that the bullet had even entered the abdominal cavity. On the other hand, there were some cases in which there was every reason to suspect that a bullet had perforated the hollow viscera within the abdominal cavity, but in which some doubt was afterward felt on this point in consequence of the prompt recovery of the patient. Dr. Sands would like to ask Dr. Bull what symptoms convinced him that his case was one of perforation of the intestine. If, in doubtful cases, this point could be settled, it might be the duty of the surgeon, in the light of the success obtained by Dr. Bull, and in view of the almost uniform mortality of such injuries, to open the abdomen, a procedure which might afford the only means of saving life.

Dr. Bull thought it was generally acknowledged that it was impossible to name any particular symptoms which indicated positively that the intestine had been wounded. It had been stated by authors that if there was general tympanites, and blood escaped by the rectum, one could infer that the intestines had been wounded. A large number of authorities had stated that there was no way to determine whether or not the intestines had been perforated. Dr. Parkes, of Chicago, in a paper read before the American Medical Association, in which he detailed the results of a series of experiments performed on animals, had stated that, as a result of his experiments, it was impossible to form any conclusions from the symptoms as to the direction in which the bullet had gone, or as to the amount of damage which it might have done, except within certain limitations. Dr. Bull thought it not right to say that, in the absence of symptoms, the intestines were probably uninjured. These considerations, and the fact that in this man's case it was uncertain whether the wound entered the cavity of the abdomen or not, had led him to explore the bullet-wound first, and, when it was found that the wound did enter the abdominal cavity, the abdominal section was made. It seemed to him that the difficult question was not so much what kind of cases we were to operate in, as what kind of cases it was not desirable to operate in. Dr. Halsted had mentioned a case which was a very desperate one from the first, but, at the same time, it was one of those cases which would certainly have terminated fatally without interference, and he thought interference in such cases was justifiable if there was a prospect that the patient could sustain the operation. This was difficult to determine. Therefore, given an abdominal wound, with the patient in good condition, without any symptoms which enabled the surgeon to determine whether or not the intestines had been perforated, he believed it proper to first explore the wound, and, if the wound was found to enter the peritonæum, to also enter the peritoneal cavity by operation, and endeavor to remedy the damage done.

Dr. L. A. **Stimson** asked if laparotomy had ever been successful after fæces had been extravasated into the abdominal cavity.

The **President** was under the impression that such cases were on record. The president also remarked that it was difficult to form an opinion with reference to the amount of damage done in cases in which the symptoms of collapse were very marked, as in Dr. Halsted's case. The second case reported by Dr. Bull was one in which he assisted the operator, and also in deciding the question as to whether or not the operation should be performed, and he readily recalled the difficulty in reaching a conclusion as to whether the shock came from injury of one of the viscera or from hæmorrhage. He thought it utterly impossible to determine this question positively, and believed it to be justifiable to make an exploratory incision and examine with the fingers; or, better still, in cases of suspected hæmorrhage, to introduce a small sponge attached to a sponge-holder.

Dr. **Sands** would like to inquire of the surgeons of the Presbyterian Hospital who might be present as to the exact nature of a case in that institution which was supposed to have been one of perforating wound of the stomach, and in which the patient recovered without operation. If it could be proved to have been a case of perforation of the stomach or intestine, it would show that nothing could have been gained by surgical interference. He thought it impossible at present to formulate our experience so that it would enable us to determine positively when to operate.

Dr. **Stimson** thought it possible that a ball of small caliber could perforate the stomach without causing an escape of the contents of the stomach into the peritoneal cavity.

Dr. **Briddon** remarked that there was a class of cases in which it was doubtful whether or not the operation of laparotomy should be performed, and one question to be decided was, whether perforation of the intestine had taken place. At one time he had regarded shock as a very important symptom in deciding this point, but had subsequently given it up, inasmuch as the condition of shock varied so much in different individuals.

Dr. **Bull** said that in the class of cases referred to by Dr. Briddon, if the intestines were not found perforated after an exploratory incision, he would not consider that the patient's chances had been very much impaired by the operation. If the gut was not damaged, no special harm would be done by making an exploratory incision, and if it had been perforated there were many chances in favor of recovery after the operation. He thought that his attempt in the case which he had reported was influenced by the history of a case which he had seen four or five weeks before this patient came under his observation. It was that of an Italian woman, thirty-five years of age, who was shot in the belly, the ball entering just below and to the left of the umbilicus, and in which there was no more evidence of damage done to the contents of the abdominal cavity than in the case of the patient upon whom he operated. For a week no one was able to say whether or not the woman had peritonitis, but gradually symptoms increased, and she had well-marked suppurative peritonitis. An abscess formed near the umbilicus, and extravasation of fæces took place, secondary hæmorrhage with the loss of only about two ounces of blood occurred from the epigastric artery, and the patient died. At the autopsy it was found that the intestine had been perforated by the bullet at only two places; one in the sigmoid flexure, and the other in the ileum. As soon as he learned the result of the autopsy it occurred to him that there were but two wounds of the intestine, that the patient was in good condition when she entered the hospital, and that abdominal section with such trifling lesions to deal with would have offered every chance of success. If he should see such a case to-morrow, he would feel that the best advice he could give would be to have an exploratory incision made. He thought that, if the members present would recall autopsies in cases of gunshot wounds, they would find that the number of perforations in some of them had been very small, and also that it was doubtful if a case of recovery could be recalled where there had been undoubted clinical evidence of intestinal perforation.

Dr. **Sands** said that in cases like those mentioned by Dr. Bull he should feel very strongly inclined to follow the practice which he had adopted. In Dr. Hinton's case, in the Presbyterian Hospital, the bullet, which was a small one, entered from behind, and it would have been almost impossible to follow its track through the tissues which it penetrated; but where the wound was in front it could be readily explored, and the operative procedure adopted by Dr. Bull would doubtless commend itself as judicious. He would be disposed to operate promptly in such cases as these, as a preventive measure, rather than to perform laparotomy in cases in which the patient was apparently in a hopeless condition.

Dr. T. M. **Markoe** said that, on the other hand, it was but right to take up the opposite view of the question. He remembered a patient who had been brought to the New York Hospital some years ago, a sea-captain who had received a pistol-shot wound while attempting to suppress a mutiny. He was standing upon the rail of his ship, and the mutineer was below him, so that probably the bullet entered the abdomen from below upward. It entered upon the left side, midway between the umbilicus and the superior spinous process of the ilium. The patient was brought to the hospital after considerable delay. There was no evidence of fæcal extravasation or hæmorrhage, and the shock was moderate. The patient was in exceedingly good condition. Peritonitis and death, however, were expected, but the case progressed from day to day without the development of peritonitis, and the patient recovered without a single bad symptom. To be sure, it might be said, and it had been said at the time, that it was a case in which the ball had evaded the hollow organs, and had slipped off somewhere to one side and become encysted; and who could settle the question whether or not internal organs were wounded? He simply mentioned the case because it was only fair to have both sides of the question presented.

Dr. **Sands** said the case mentioned by Dr. Markoe recalled to him one in which a bullet had been found encysted in the great omentum in the body of a dissecting-room subject. When the bullet was discovered a further examination was made in order to determine, if possible, the course it had followed, and a cicatrix was found in the back, over one of the lower intercostal spaces on the right side. There were also found adhesions between the opposed pleural surfaces, a cicatrix in the diaphragm, one on the upper, and another on the lower surface of the liver.

The **President** referred to a case which he had seen during the war, in which there was found a lodgment of a bullet in the omentum where it hung suspended in the abdominal cavity. He also remarked that the gunshot wounds which presented themselves in our civil hospitals were made at short range, and that experiments conducted on many cadavers in the late war showed that in nearly every instance such wounds involved the solid or hollow viscera. While opposing the usual principle and advocating a bolder treatment of penetrating gunshot wounds, he thought that Dr. Bull had laid too slight stress upon the danger of exploratory incision. He had been struck with that fact in laparotomies for intestinal obstruction, done by himself and witnessed in the practice of others, where the exploration had made it necessary to take out the entire intestines in the hunt for the point of obstruction. He had not yet seen a case in which such a general overhauling of the intestines had been followed by recovery. He therefore thought it well to distinguish between exploration of the peritoneal cavity and exploration of its contents. With regard to Neuber's intestinal plug, he had for some time past, in order to be in readiness for such a case of internal obstruction, provided himself with several large-sized vaginal suppositories, together with several pieces of the largest-sized macaroni, to be used singly or in bunches, and sections of the finger-rolls used at dinners—to put into the intestines to stitch the gut over, and allow them to remain, to be dissolved subsequently. He had not, however, had an opportunity of using any of these articles. Treves's rubber bags, which he had shown at a former meeting of the society, were easily collapsed by an incautious puncture with the needle.

Dr. F. Lange remarked that, interesting and instructive as Dr. Bull's case was, it admitted the question whether, in this individual instance, the patient's life could not have been saved without operation. At the time of the operation the patient was in a fairly good condition, there was no evidence of peritonitis, and his general condition was such, seventeen hours after the injury, as to render it exceedingly probable that no extravasation of the contents of the gut had taken place. He would like to ask Dr. Bull if, taking into consideration the condition of the parts injured found at the operation, the closure of the small wounds by opposition of the gut and fibrinous deposits, and the nature of the exudation, he would regard the recovery of this patient as improbable without operative interference. Second, he would like to ask if Dr. Bull thought it possible that, a number of injuries of the intestine being present, there might have been some probability that manipulations of the gut could have reopened some of the bullet-holes, and allowed infection of the peritonæum to take place in consequence of the operation itself. His remarks did not in the least diminish the value of the operation so far as it was an exploratory operation, but the question was, What had the operation afforded? What did it do? It cleaned the peritoneal cavity, it was true.

Dr. Lange thought that the indications for an exploratory operation were far clearer in cases in which a short time after the injury the symptoms of peritonitis were present than in those in which they were absent for such a length of time as in the case reported by Dr. Bull.

Dr. Bull replied that it was impossible to say whether or not the wounds would have remained closed. Where so many wounds had been made in the intestine, even if no fæcal contents escaped at the time of making them, a sufficient amount of irritation would be produced to give rise to peritonitis, and there was, moreover, the liability of foreign matter being introduced by the bullet, which would produce damage entirely independent of the wound of the gut itself. He would say that in a patient with seven wounds in the intestines there were next to no chances of recovery by any conservative plan of treatment.

Dr. Briddon asked if eversion of the mucous membrane did not interfere with the process of repair, if the wounds were left alone.

Dr. Lange replied that it did, so far as the mucous membrane extended, but he did not see why the peripheral part might not be closed.

Dr. Briddon remarked that mucous membrane would not unite with the peritoneal covering, and, if such wounds were left to themselves, would not small abscesses form at the site of eversion?

Dr. Lange replied, Not necessarily.

Removal of the Uterus and its Annexa by Abdominal Section; Death on the Sixth Day from Peritonitis excited by the Presence of a Sponge.—Dr. Briddon presented a specimen, and read the following history of the case:

"N., aged twenty-seven, came under my observation for the first time on the first day of November, 1884, when I was furnished with the following history: She was delivered of her first and only child three years ago. She suffered on that occasion from post-partum hæmorrhage, and was informed by her physician that she had a tumor. Eighteen months subsequently she began to suffer from menorrhagia and metrorrhagia, which conditions increased so much that on several occasions there was great difficulty in controlling the flow. In July, 1884, she began to suffer from pain associated with the discharge of large clots. In October she became so much exhausted that she had to take to her bed, where I found her. She was a tolerably well-nourished, but much exsanguinated woman. An examination of her lungs, heart, and urine had yielded negative results. Inspection detected nothing but a very moderate prominence in the hypogastric region. Palpation discovered a tumor in the median line, which had the configuration of the uterus, and which reached to about the level of the umbilicus. Auscultation could detect no pulsation of the fœtal heart. Examination by the vagina found the os patulous and the cervix shortened, and the finger came in contact with a tumor apparently projecting into the cavity of the uterus. Bimanual examination made out that the vaginal mass was continuous with the tumor above the pubes. The diagnosis of submucous fibroma was made, and it was advised to use hypodermic injections of ergotin three times a week until the local conditions were favorable for enucleation.

"*November 29th.*—She had an attack of hæmorrhage of a very alarming character, which only yielded to the liberal use of ergot and the tampon. The condition of acute anæmia that followed this was of a very serious character, with intense thirst, vomiting, restlessness, and sighing respiration. At one time preparations were made for the intravenous use of salines. Nothing was retained but iced champagne, which was given continuously, and it was only by the most assiduous care of her attendants that she was tided over. Then it was determined, by the liberal use of such food and wine as she could assimilate, to prepare her for such operative procedure as might be necessary to prevent another hæmorrhage.

"January 1, 1885, her condition appeared to warrant a more thorough examination. A large tupelo-tent was introduced into the cervix, and in twenty-four hours she was etherized, when a finger introduced into the cavity of the uterus detected a pretty large tumor, which was continuous with the wall of the cavity. When the hand was introduced into the vagina, two fingers could be passed through the cervix and directly up to the left cornu, and when these two fingers distended the cavity of the uterus no tumor could be felt within, but bimanual examination proved that the tumor occupied the right side of the uterus and the corresponding broad ligament, and it was determined to remove the tumor by the abdominal section as soon as her condition appeared to warrant it. She was put upon nutritious diet and a liberal use of Burgundy.

"After the end of the first week in January the patient's condition appeared to warrant the contemplated interference. She was prepared by the usual aperient, and thorough personal disinfection; the room in which it was proposed to do the operation was properly prepared; the instruments, with a single exception, were boiled, brushed, and soaked in carbolic-acid solution; sponges, round and flat, were prepared a week before. A hypodermic of morphine and atropine was administered at 2.30, January 10th, and the patient was placed under the influence of ether.

"An incision was made in the median line from below the umbilicus to just above the pubes. After the arrest of hæmorrhage from a few bleeding points, the peritonæum was opened and the tumor exposed. It was found to involve the right side of the uterus, passing into the corresponding broad ligament. There was also found a small cyst in the ligament, and unconnected with the uterine tumor, also a cyst as large as a lemon in the left ovary. The tumor was held down in the pelvis so firmly that it was found impossible to lift it out until after ligation and separation of the broad ligaments. This division was made well outside the tubes and ovaries. Even after this liberation it was found difficult to bring the supra-vaginal portion of the cervix into the view. A stout cod-line was then passed round the tumor and tightened by an écraseur so as to compress the cervix temporarily preparatory to the application of an elastic ligature, which was passed twice round and clamped. The cod-line was then removed, and the section of the tumor was absolutely bloodless. It was intended to transfix the pedicle above the ligature with some gilt steel acupressure needles, but they were not deemed sufficiently strong, and a trocar was used. This was the exception referred to in the statement that all the instruments had been scrupulously cleansed, the trocar was clean, and was in the carbolic-acid solution, but it had not been so thoroughly treated as the others. There was nothing to clean out of the peritonæum save a little blood from stitch-holes, and that was absorbed by a flat sponge. The abdominal walls were brought together by silk sutures. There was some little difficulty in placing the stump outside the walls; it was well dusted with iodoform, and twelve layers of fifty-per-cent. iodoform gauze were used in the dressing, supplemented by a quilt of bichloride jute.

"The tumor weighed three pounds. It was of a soft, succulent character—so soft, indeed, as to convey the impression that it was fluctuant, probably of the myxomatous variety. A subsequent examination made out that it was a soft fibroma.

"On the day following the operation the condition of the patient was satisfactory; her pulse was frequent, and her temperature was 103° F., but her general appearance was good; she complained of some pain, due to the traction of the stump. She was given opium in moderate doses in the form of enemata, and a refrigerating coil was applied to the abdomen. On the second day her temperature was 102°; the vomiting had ceased. On the third day the temperature was down to 101°, and everything seemed hopeful. On the fourth day there was a very unfavorable change; her temperature went up to 104°. I made a very careful examination, and could find no cause. When I was informed of the change in her condition, I took a glass drainage-tube with me, supposing that there must be something confined within the cavity of the peritonæum that required an outlet. On removal of the dressing there was absolutely no evidence of anything that would warrant interference; there was no abdominal distension and no tenderness, and I supposed the symptoms must be due to blood-poisoning. She was given stimulants and hypodermics of morphine, and the refrigeration was kept up; but it was all in vain; the temperature came down a degree, but the heart failed rapidly, and she died on the morning of the sixth day.

"The following is the report of Dr. William Henry Porter, who made the autopsy, twelve hours after death:

"'The external abdominal wound was the only surface abnormity; the abdomen was opened by straight and elliptical incisions, so that the wound and attached stump were removed entire. The incision to the right of the wound bisected a small pocket of pus, which communicated with the operation wound by one of the stitch-holes.

"'*Thoracic Cavity.*—Heart and lungs normal, excepting a little fatty change in the former; weight of heart 13 oz. (4043 grammes), of lungs 24 oz. (7461 grammes).

"'*Abdominal Cavity.*—No distension of abdomen, or undue accumulation of gas in intestines; no general peritonitis. Spleen firm and dark in color; weight 11 ounces (3421 grammes).

"'*Kidneys.*—Both glands larger than normal; weight of each 6 oz. (1866 grammes); they are anæmic; capsules normal and non-adherent; underlying renal surface smooth; cut surface granular; cortex thickened.

"'*Microscopic Examination.*—The epithelial cells, both of the straight and convoluted tubules, showed the protoplasm to be in a state of fine granular metamorphosis. This had caused the cells to become swollen, and in many places the lumen was nearly closed by them. At other points the cells were becoming detached. The intertubular tissue was swollen and œdematous. The lesion is that of an acute parenchymatous metamorphosis of the renal cells, one which develops during the last few days or hours of life, and is often found at the necropsy. When the intestines were detached from the mesentery, at a point thirteen feet below the stomach, a collection of pus was found located in the substance of the mesentery, and bound to the intestinal wall by fibro-plastic inflammatory exudation. From this point down to the cæcum the small intestine and a part of the colon were in the pelvic cavity, and more or less glued together by inflammatory exudation. The recto-vaginal pouch was covered by a layer of recent deposit, and a very small amount of pus. The stumps left by excision of the ovaries were not inflamed. The inside of the wound bore evidence that the healing process was progressing favorably. One end of the elastic ligature external to the clamp protruded into the peritoneal cavity, possibly pulled through during evisceration.

"'In the iliac fossa, near the cæcum, a sponge was found seven centimetres in diameter. It was almost, if not entirely, encapsulated by inflammatory lymph.

"'The wound and stumps being in such good condition, and the pelvic inflammation being most advanced on the right side, points toward the foreign body as the cause of inflammation.

"'*Liver.*—Weight sixty ounces. It was slightly fatty; a few points resembling fat emboli, or commencing pyæmic foci, were found; the hepatic cells showed fatty infiltration and degeneration, also bile pigmentation.

"'The cause of death in this case may be ascribed to the original operation, peritonitis, and an overworked pair of kidneys.'

"The fatal flaw in the technique of this operation was the omission to count the sponges before the closing of the wound. I can not plead ignorance of the necessity for attention to so important a detail, for I was conversant with the accidents from such cause published in the literature of the subject. How it could have happened, surrounded as I was by my trustiest friends—men accustomed to deal with such cases—is more than I can tell."

Dr. Sands had recently heard of an instance in which a few months ago ovariotomy was performed, and one or two days after the operation unpleasant symptoms developed. It was then found that a sponge was missing; the surgeon opened the abdominal cavity and removed the sponge, the unpleasant symptoms disappeared, and the patient recovered.

Dr. Markoe referred to a case in which the accident of leaving a sponge in the bottom of a wound occurred in his observation. It was one of deep sinus of the popliteal space, which for many months had been treated by a medical gentleman by the use of sponge tents. Finally Dr. Markoe was called upon to operate. In order to facilitate following the track of the sinus, he injected the cavity with black ink for the purpose of staining every part of the tract, and at the operation he followed out every part of the sinus with the greatest care. The late Dr. Van Buren assisted him at the operation. No disease of the bone was found. Subsequently the case did very well, but the sinus remained as obstinate as ever, and after a time the gentleman went to Philadelphia, where he consulted one of the leading surgeons in that city, who recommended an operation and performed it, and in its performance disclosed the presence of a piece of sponge, as large as the smallest commonly used, which was lodged in the cavity and was surrounded by dense fibroplastic material. The foreign body was removed and the patient recovered. He had the satisfaction of dividing the responsibility with the gentleman, who had previously used sponge tents, as to who had left the sponge in the wound.

Dr. Stimson said there was a practical lesson to be learned from Dr. Briddon's case, as the accident was plainly the result of using a handful of small sponges for the purpose of holding back the intestines, instead of one large flat sponge.

Dr. Briddon remarked that his directions always were to use the small sponges only during the operation of making the incision in the abdominal wall down to the peritonæum. Then they should all be removed, and afterward the large flat sponge employed.

Dr. R. J. Hall asked if we were justified in assuming that an aseptic sponge left in the peritoneal cavity would cause peritonitis.

Dr. A. G. Gerster wished to add two cases, not on account of the fact that sponges remained in the wound, but because he was able to say that the sponges were not forgotten, but remained in spite of the wound being carefully explored for them. The sponges which he used were Florida sponges, prepared after the method of Keller, which had left some of them exceedingly brittle. After having removed the breast of one patient it was necessary to open deep into the axillary cavity. Sponges were packed into the deepest portion of the cavity during one part of the operation, and there one of them became so matted and united with the wound surface that, when the sponge was seized to be extracted, a portion of it separated from the rest of the sponge and remained behind, being of about the size of the last joint of one's thumb. The surface of this fragment was so smooth from the blood-clot inclosing it that it was not recognized on subsequent exploration of the wound with the finger. The external wound healed by first intention throughout. Everything seemed to be doing well, and at the expiration of ten days he withdrew the drainage-tube, which had been placed through a counter-opening made in the latissimus dorsi muscle. A day or so afterward high fever suddenly set in, without any apparent reason; but soon the nature of the disturbance was disclosed, for a fluctuating swelling, with redness of the skin, developed in the axillary region, and a large quantity of pus was evacuated, when the piece of sponge was discovered and removed. A similar instance had occurred to him in a case of extirpation of the rectum, where a portion of a sponge remained in the deepest part of the wound beyond the pelvic fascia. It resulted in the formation of an abscess in the prevertebral connective tissue, and the case terminated fatally by septicæmia.

The President remarked that it seemed that in Dr. Gerster's first case the sponge did no damage until it was exposed by the removal of the antiseptic dressing.

Dr. Gerster remarked that he would be rather inclined to believe that there were septic substances in the sponge which produced the trouble, although there was no suppuration before the dressings were removed. There was a case on record which he remembered to have read some years ago, reported by Volkmann, who once performed exsection of the hip joint and left a sponge in the acetabulum, which remained for a long time, causing no trouble whatever, but finally trouble was developed, and it was removed by operation four or six weeks after the performance of the exsection.

Dr. Briddon referred to the fact that this accident had occurred in one of Tait's cases, and that Tait referred to ten others in which it had happened.

The President remarked that a paper had recently been published in which twenty cases of the occurrence of this accident had been reported.

NEW YORK ACADEMY OF MEDICINE.

Meeting of February 5, 1885.

The meeting was called to order by the retiring president, Fordyce Barker, M. D., LL. D., who introduced to the Academy one of its ex-presidents, Dr. James Anderson; Dr. Theophilus Parvin and Dr. S. Weir Mitchell, of Philadelphia; Dr. John S. Billings, of the army; and Dr. George C. Shattuck and Dr. James R. Chadwick, of Boston.

Dr. C. R. Agnew offered a resolution inviting Professor Merriam, of Columbia College, to deliver a lecture before the Academy on the Temple of Æsculapius, which was adopted.

Dr. Barker then read his retiring address. [See page 141.]

The President's Inaugural Address.—Dr. Abraham Jacobi, the newly elected president, then took the chair. He thanked the Academy for the extraordinary proof of its confidence that he would do all in his power to promote its welfare. After remarks of respect for Dr. Barker, he contrasted the manner of support of institutions like the Academy in this country with that of like institutions in Europe. Here the physician who worked for the building up of institutions for the promotion of science and the health of the public did so without pecuniary consideration from the Government, and while discharging the duties of the active practitioner. In this peculiar position he was constantly reminded of the aphorism, that the aim of all medicine was the promotion of the health of the people. This might be one reason why we were sometimes reminded that America had never produced a John Hunter or a Virchow, etc.; but it ought not to be forgotten that in all England there had been but one John Hunter, and in all Germany but one Virchow. But American medicine was not without its names of honor, which would not be forgotten so long as a medical literature existed. Many of the distinguished physicians of this country had been, or were still, members of the New York Academy of Medicine, and he suggested that such of the older members as were disposed to withdraw from its active duties, in deference to the younger and more active members, should not forget that those with wisdom and learning but without experience often listened with pleasure and profit to those with wisdom, learning, and experience. He hoped that soon, instead of only one or two sections of the Academy doing active work, all of them would be flourishing. The different medical societies of the city ought to hold their meetings in the halls of the Academy. The time would come when the medical profession would be the guardians of the public health, and would be consulted as to all legislation bearing upon sanitation. He expected the day to arrive when the president of the Board of Health would be appointed by the wise men in medicine; when no board of education or of charities would be complete without a medical member; and when the most improbable thing of all would arrive, that the public would acknowledge that the government of hospitals was not complete without medical advisers in their boards.

A consideration of medicine during the eighteenth century formed the main part of the president's address. Altogether, he said, the medicine of the eighteenth century exhibited a peculiar character. The first position had to be conceded to France, and he referred to such names as Bichat and Broussais; but at present France possessed few men whose names would go down to posterity. In England there was the great John Hunter. Germany, which had occupied the background, at the present time stood in advance of all other countries in scientific medicine. Medicine during the eighteenth century was in that unsettled state most suitable for the development of such senseless deceptions as homœopathy, etc., and, when pathology had advanced to some degree under Rokitansky and his followers, the public was in that position where it preferred the homœopathist's pill-box to the pathologist's post-mortem case.

The time recently had been, or rather now was, when a new theory in pathology could change the basis of all ætiology. It was not necessary that he should say he had in mind bacteriology. He mentioned the subject in this connection to direct the attention of the Academy to the importance of its aiding, as far as it could, the scientific settlement of this question which had now come to take such a strong hold on the minds of the profession. But music, doubtless, was a good thing, yet in Berlin, where fifty thousand or more learners were constantly thumping the keys of the piano, the people had lifted their voice in opposition, and pronounced piano-playing a nuisance. So bacteriology might be a very good thing, and all were willing to hear the expression of the matured opinion of such authorities as Koch and his peers, but when fifty thousand self-constituted, but incapable, authorities were constantly calling our attention to newly discovered bacilli, which were alleged to be the cause of this or that disease until the next one came along, he thought it was also time here to cry "Stop!" The speaker then said that he thought bacteriology had too often to beg the question, and he then called attention to the fact that the symptoms arising from the chemical reaction of certain poisons resembled very much those of the infectious diseases which it was maintained were caused by vegetable organisms.

Before closing, Dr. Jacobi made a brief eulogy of medicine in this country, and said that the American medical man had received, appropriated, and digested the results of foreign scientific labor, to which he had also added his own. He felt as Holmes had written years ago, "I am too much in earnest for either humility or vanity."

Dr. Chadwick, of Boston, then read a letter from Dr. Oliver Wendell Holmes, directed to Dr. Barker, and also presented the latest photograph of Dr. Holmes, after which the Academy adjourned. [Dr. Holmes's letter will be found elsewhere in this issue of the journal.]

NEW YORK CLINICAL SOCIETY.

Meeting of December 26, 1884.

Dr. A. A. Smith in the Chair; Dr. W. Duncan McKim, Secretary.

Typhlitis.—Dr. Swift asked for the experience of the society as to the location of pain in the beginning of typhlitis.

Dr. Kelsey had usually found it over the right iliac fossa.

The Chairman said that in a case which he had had during the past summer the pain had existed all over the abdomen.

Dr. Swift then related the case of a patient who had several diarrhœal passages in the early morning, and when Dr. Swift saw him, a few hours later, general pain over the abdomen. There was no nausea, nor rise of temperature. The next day the pain continued. In the evening there was marked tenderness in the right iliac fossa, and the temperature was 101° F. The next morning the pain and tenderness were limited to an area of about two inches in diameter, over the right iliac fossa; the evening temperature was 101°. The pain and tenderness continued in this region for about five days, when the patient recovered. Just before the attack, a pill, containing cubebs, turpentine, and iron, had been taken, and Dr. Swift thought that this pill had lodged in the vermiform appendix.

Lodgment of Gunpowder in the Roof of the Mouth.—Dr. Delavan mentioned the following case: An Italian, suffering with tubercular laryngitis, who presented a pretty clear history of syphilis and of treatment with local applications of nitrate of silver, had several deep and extensive cicatrices just in front of the velum palati, also a number of blackish dots in the roof of his mouth. These peculiar spots Dr. Delavan found it hard to account for until he learned that the patient had once shot himself in the mouth and pharynx, in an attempt at suicide. The spots were evidently due to the lodging of gunpowder in the mucous membrane.

Obstruction of the Rectum from Pelvic Exudate.—Dr. Kelsey related the case of a patient who had perimetritis four years ago, since which time she had suffered from obstruction of the rectum. Before she came under Dr. Kelsey's care a small *bougie-à-boule* had been passed with difficulty. Dr. Kelsey was unable to pass the finger up the rectum. A large and distinct mass of pelvic effusion was found in Douglas's *cul-de-sac* and the uterus was immovable. A No. 4 rectal bougie was passed, the next day a No. 6, and the third day a No. 7 was passed up four inches from the anus. Dr. Kelsey was hopeful of keeping the rectum open by the constant passing of bougies. He stated that this was the only typical case of rectal stricture from external pressure which had ever come under his observation.

The Chairman thought that dilatation in such a case would sooner or later cause a fresh cellulitis, and so make the patient's condition worse than ever. He raised the question whether abdominal section could be of service in this case.

Dr. Abbe would prefer, if necessary, to make an exploratory abdominal incision rather than do a colotomy.

Fissure of the Anus.—Dr. Kelsey stated that for the past two years he had not been obliged to stretch the sphincter for fissure of the anus, but had used instead a weak solution of nitrate of silver—never of more than five or ten grains to the ounce. In a recent case the patient was cured by a single application of a ten-grain solution, and in another and very severe and obstinate case a cure was effected in three weeks by this method.

Dr. Abbe has cured cases by the application of the solid stick. He thought the principle was simply to supply a coating of coagulated albumin.

Septic Conjunctivitis.—Dr. McKim narrated the following case: As a lady was walking in the street one afternoon the contents of a garbage-barrel were emptied into a cart close on her left. A strong stench was noticed, but nothing more. Toward evening her left eye began to water, but no foreign body had been felt. The next morning the lids of the left eye were much reddened and swollen, and there was an abundant muco-purulent discharge. Careful search showed no foreign body. The right eye, as yet in a normal condition, was sealed. The next day, the patient having removed the sealing during the night, the right eye was found hyperæmic, and subsequently furnished a profuse muco-purulent discharge. The following day the daughter, who admitted having neglected the caution urged upon her in caring for her mother's eyes, was found with a double catarrhal conjunctivitis. A day later the husband had a mild, purulent conjunctivitis of both eyes. The interest of the history lay in the fact that the morbific agent, apparently derived from the garbage-barrel, seemed to have acted, not as a mechanical, but as a septic irritant.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Meeting of February 3, 1885.

The President, Dr. F. W. Bartlett, in the Chair; Dr. Frank H. Potter, Secretary.

Practice by Midwives.—The committee appointed to consider the advisability of regulating the practice of midwives for the city of Buffalo reported in favor of such regulation. This committee (consisting of Dr. Hartwig as chairman, Dr. H. R. Hopkins, Dr. William Ring, Dr. P. W. Van Peyma, and Dr. John H. Pryor) recommended that, in view of the serious evils connected with the practice of ignorant midwives, the Legislature be requested to pass a bill compelling the examination and licensing of midwives in and for the County of Erie. A rough draft of a bill was then presented providing for a board of examiners, and for the examination and registration of all persons other than physicians now practicing, or who should hereafter be desirous of practicing, midwifery in this county. It was the opinion of the meeting that the recommendations should be acted upon, and the bill was then referred back to the same committee, with instructions to arrange the matter in proper shape to be presented to the Legislature; to obtain legal advice, if necessary; and to report at a subsequent meeting.

Persons discharged from Asylums as not Insane.—Dr. William D. Granger read a paper upon this subject, the interest of which turned upon the relation of the profession to patients before their admission to an asylum. Before a patient could be admitted it was necessary that two physicians should be convinced that insanity existed, that they should make a sworn statement to this effect, and that this statement should be approved by a judge of a court of records. Every certificate must contain the words "*Is insane*," or the commitment would not be legal. Upon the patient and the certificate being presented at an asylum, the superintendent was obliged to receive him. There was no discretionary power in the matter. All the authorities agreed upon this point, and it was a just provision, both to the court, to the physicians, and to the patient. The patient having been admitted, it became the duty of the asylum physicians to make a full diagnosis and refer him to the proper ward for treatment. If full evidence of insanity was not present at the time of the first examination, it was the duty of the superintendent to keep the patient under close observation until a definite conclusion could be formed. This was necessary because the patient might have "concealed delusions, hallucinations, and illusions," and the first examination not suffice for their discovery. Then, again, the case might be of a paroxysmal character, and the patient be admitted during the intermission, when further observation would, of course, be necessary. Under this strict plan, no person was retained in an asylum who was not insane. In Utica, during the past forty years, 268 patients had been discharged as not insane, an average of 6·5 per annum. In Buffalo, during four years, 23 had been discharged, an average of 5·8 per annum. During the past year eleven have been discharged from Utica; from Buffalo, ten; and it would be observed that this was considerably above the average. Now, the discharge of these persons did not reflect any discredit upon the physicians who had made the certificates of insanity. The patients were generally found to be suffering from one of the following diseases: delirium tremens, dipsomania, meningitis, cerebro-spinal meningitis, hysterical mania, hysterical epilepsy, or active delirium from other causes which were obscure; and it might be questioned whether an asylum was not a proper place for them. Again, in the cases of persons coming from the poorer classes, the physicians had often to decide between the jail, where they found the patient confined, and an asylum, and wisely preferred the latter. This was certainly humane, and deserved commendation.

The term insanity, as interpreted by the law, might easily be made to include the diseases above mentioned. The last enactment upon this subject read as follows: "The terms 'lunacy,' 'lunatic,' and 'insane,' as used in this Act, shall include every species of insanity, and extend to every deranged person and to all of unsound mind, other than idiots." From this it appeared that the discharge of patients, suffering from the above-mentioned diseases, as not insane, did not reflect upon the skill of the physicians who had made the certificates.

The author then proceeded to consider how much truth there was in the sensational accounts of the attempted incarceration of sane persons in the asylums. He had recently noticed in a reputable newspaper of Cleveland, Ohio, a statement to the effect that half of the persons detained as patients in the lunatic asylums of that State were sane, and unlawfully kept in those institutions. Charges against the asylums, in this respect, had been made by newspapers in this State. It was hardly necessary to say to the members of this association that they were entirely unwarranted. In order to make it possible to incarcerate a sane person in an asylum, it was necessary to assume that the friends of the patients were designing, the physician who signed the certificate corrupt, the judge willing to be bribed, and the superintendent unscrupulous and dishonest. The conspiracy, as it was frequently called, involved too many absurd suppositions. As a matter of fact, an attempt of this kind was exceedingly rare, and was always discovered. During thirty years but three attempts had been made at Utica, and they had failed in the end. No attempt of this kind had been made at the Buffalo asylum.

The author also wished to compliment the profession on the character of the certificates presented at the asylum. They showed an amount of care and professional skill that was highly commendable. Only in a few instances was there anything wrong or objectionable found in them.

In the discussion, replying to Dr. Van Peyma, who asked where the line was drawn that divided sanity from insanity, Dr. Granger said that insanity was a *disease*. It was as absurd to say that every one was more or less insane as it would be to say that everybody had typhoid fever, or phthisis, or any other disease. Its diagnosis was to be determined by a knowledge of the physiology of the nervous system, and of the derangement produced in it by disease. That it was sometimes difficult to recognize this disease in its early stages or in its obscure forms was no more to be wondered at than the difficulty in recognizing incipient phthisis or any other disease that was subtle in its approach. It was often difficult to decide as to the sanity or insanity of a person, but the physician must be convinced of the presence of disease before he wrote the certificate.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of December 24, 1884.

Dr. John A. Wyeth, Chairman *pro tem.*

Dr. R. Van Santvoord presented specimens as follows:

Diphtheritic Croup.—In the first case the patient was a child, thirteen months old, an inmate of the Randall Island Hospital. Death occurred within about twenty-four hours after the inception of the throat trouble. The autopsy revealed false membrane about half way down the trachea.

Pleurisy, Pericarditis, and Pneumonia.—These specimens were from the body of a man who, two weeks before his death, complained of pain over the pericardium and shortness of breath. Subcrepitant râles, and afterward bronchial breathing, were heard over the lower lobes, the apex beat was in the nipple line, and the area of dullness extended beyond the area of impulse of the apex. It was noteworthy that such marked lesions should have escaped the attention of a competent diagnostician, who examined the patient several times. The autopsy revealed opacity of the arachnoid, excess of fluid in the cerebral cavities, with œdema of the membranes. A pint of fluid was found in the left pleural cavity, the left lower lobe was compressed, the left upper in a condition of gray hepatization, commencing to resolve, and the entire lobe œdematous; the right upper lobe was in a state of red hepatization, and the middle and lower lobes were in a less advanced stage of inflammation. The pericardium contained over eight ounces of blood-stained fluid, and its surfaces were coated with a moderately thick layer of lymph. The left ventricular opening of the heart would admit three fingers, the right four; the cavities were dilated, and the walls had slightly undergone fatty degeneration. There was a moderate amount of interstitial nephritis.

Dr. Van Santvoord presented several other specimens.

Dr. Ripley requested Dr. Van Santvoord to make the same statements to the society that he had made to him privately concerning the first specimen.

Dr. Van Santvoord said the point alluded to by Dr. Ripley was one raised in the Academy of Medicine on the occasion of the reading of a paper on tracheotomy in diphtheritic croup by Dr. Winters. The author held that laryngeal obstruction caused congestion of the lungs and subsequent broncho-pneumonia, whereas Dr. Ripley held that stenosis of the air-passages leading to the air-cells produced emphysema and consequent anæmia. Dr. Van Santvoord said that Dr. Ripley's view was the one commonly accepted by pathologists, and that statistics showed that broncho-pneumonia was but exceptionally present in cases of death after tracheotomy for stenosis, the chest being usually over-resonant, and the lungs in a condition of emphysema. Consequently, Dr. Van Santvoord should say that the idea of preventing the occurrence of broncho-pneumonia was not an indication for tracheotomy in laryngeal stenosis. The specimen which he presented supported this view, and where broncho-pneumonia was present it had developed prior to the occurrence of diphtheria.

Dr. Ripley did not wish to prolong discussion on this subject at present, but would simply say that since the reading of Dr. Winters's paper he had obtained the results of three post-mortem examinations in croup which went to support his view as set forth by Dr. Van Santvoord, and in one of the cases he was present at the autopsy himself. The child had died of croup after tracheotomy, and in that instance the lungs showed no signs whatever of pneumonia, but, on the contrary, the air-cells were distended, and the lungs bulged out through the first incision into the walls of the chest.

Trypsin as a Solvent of Diphtheritic Membrane.—Dr. Chapin presented the lungs and tubes which had been removed from a child three years of age, dead of blood poisoning from diphtheritic croup. It had been suffering from a bronchitis, and, when after some days a diphtheritic patch developed on the tonsil, dyspnœa soon occurred, and demanded tracheotomy, which was done under difficulties. The child breathed easily after the opening had been made into the trachea and a false membrane had been expelled, but the next day dyspnœa began again, and in the afternoon was as severe as before the operation, although somewhat different in character. Dr. Chapin then threw trypsin into the tracheal wound by means of a coarse atomizer, and soon afterward the child again breathed perfectly freely. The use of the pepsin extract was continued during the night, but the child died the following day, not of dyspnœa, but of blood poisoning. The autopsy showed that the membrane in the trachea below the opening was partially digested, and he thought the relief to the obstruction in the deeper passages had been effected by means of the digestive properties of the trypsin. Dr. Chapin had not found tracheotomy in these cases a simple operation, and in the present one there was a marked rise of temperature and pulse after the tracheal opening had been made.

Dr. J. Lewis Smith had employed extractum pancreatis in six or eight cases, mixed with bicarbonate of sodium, and had found that the faucial and laryngeal membrane had disappeared much sooner than usual. He was not prepared to say whether the result was brought about by the trypsin or by the bicarbonate of sodium, or by both. In his opinion, we should perform tracheotomy even where there could be little hope of giving the child more than temporary relief, notwithstanding the possibility of increasing popular prejudice against the operation.

Dr. Wyeth said, with reference to tracheotomy being regarded as a simple operation, that in the last case in which he performed it, for a foreign body in the larynx, it proved to be very difficult. The trachea in that case did not lie exactly in the median line.

Dr. Ripley hoped trypsin might prove successful in dissolving false membrane in croup, but his experience with solvents had not been favorable. In one instance, however, he poured lime-water into the tracheotomy wound by the teaspoonful at a time, and it had the effect of dissolving the membrane. He did not regard the entrance of a teaspoonful of liquid into the trachea as harmful; it would not reach the air-cells, and if it did it would do no harm. He had frequently noticed a rise of the temperature shortly after tracheotomy, but if the disease did not progress it would fall the next day.

Dr. W. P. Northrup had looked over the records of the New York Foundling Asylum, after the discussion on Dr. Winters's paper at the Academy, and found there had been sixteen autopsies after diphtheria with marked laryngeal symptoms, and in all the false membrane extended down into the smaller bronchial tubes, in one reaching within 1 cm. of the base of the lung. As far as he could remember, in about four of the cases there was marked pneumonia; tracheotomy was performed in about four cases, but twelve were entirely relieved of dyspnœa, some by means of a cannula inserted between the vocal cords.

Dr. A. Jacobi remarked that it was necessary to have the statistics of a large number of cases in order to establish facts regarding diphtheritic croup. Here he would call attention to the well-known fact that membrane in the trachea and bronchi manifested a greater tendency to become macerated than elsewhere. This was one reason why success had followed applications of lime-water, alkaline waters, extractum pancreatis, etc. A good many children suffering from croup died with symptoms similar to those which existed before death when tracheotomy was not performed. In other words, they died of stenosis, but the stenosis was of a different character. It was true that there was dyspnœa, and recession of the supra- and infra-clavicular and diaphragmatic regions, but the dyspnœa did not occur in the same degree as when uncomplicated laryngeal stenosis existed. In the latter form of respiratory obstruction the breathing was long-drawn and slow, whereas in the majority of cases of bronchial stenosis, due to descent of the croupous membrane, the respirations were shorter, more frequent, and more like those of pneumonia and bronchitis. Children suffering from these symptoms did not die alone of dyspnœa from stenosis, but of the accompanying pulmonary congestion, bronchitis, œdema, etc. He thought this fact should be taken into account in diagnosis, and also in prognosis after tracheotomy.

Dr. Ripley asked whether Dr. Jacobi meant that in laryngeal stenosis the respirations were slow.

Dr. Jacobi said he did.

Dr. Ripley thought it was a mistake. He had the record of over a hundred cases in which the respirations had been taken, and they were invariably hurried. This was true not only in croup, but also in asthma. It was true the respirations varied a little in secondary croup from what they were at an earlier period, but he did not think it was due to any inflammatory process, but rather to the fact that the obstruction to respiration was distributed more generally over the lungs, and more particularly to the fact that by this time the child had become exhausted. The apparent length of the respirations in stenosis of the larynx was due to the peculiar noise made as the air passed through the glottis.

Dr. Jacobi remarked that the statement which he had just made, that many cases must be observed in order to determine a point regarding croup, had another illustration; he had observed in several hundred cases of croup that in laryngeal stenosis the respirations were slow, whereas Dr. Ripley had observed in a hundred cases that they were hurried. Theory, he thought, would support his own view: a flask would become filled with a fluid less rapidly with a narrow than with a broad mouth, and the same fact was true, he thought, of the lungs; when laryngeal stenosis existed, it required a longer time for the air vesicles to become distended, and he did not think the child would voluntarily shut off one respiration to make another when the lungs were not distended to their usual degree.

Difficulty of Diagnosis between Pleurisy and Pneumonia in Children.—Dr. J. Lewis Smith related the following case, and requested Dr. Northrup to give an account of the post mortem: An infant, aged eleven months, had for two months been ailing with whooping-cough. Ten days preceding the 24th of the month the bronchitis accompanying the whooping-cough became aggravated. Then, in addition to capillary bronchitis, there was an almost flat percussion sound over the right side of the chest except anteriorly, where the dullness was less marked. He supposed, therefore, that the child had pleurisy with effusion. The attending physician afterward aspirated the chest and failed to withdraw any fluid. Dr. Smith was obliged, then, to accept the probable diagnosis of pneumonia with thick fibrinous exudation over the lung. The difficulty often existed of distinguishing between pneumonia and pleurisy with effusion in children under fifteen months of age. In the present instance, as in many cases, no enlargement of the affected side could be noticed; not even bulging in the intercostal spaces.

Dr. Northrup then gave the results of the autopsy. The lungs were much more than usually compressed, and were slightly adherent anteriorly. In the pleural cavity was a pint of greenish-yellow fluid containing pus. The lung was so carnified that it scarcely rose to the surface of the water. Dr. Northrup said there were records of as many as from seventy-five to one hundred post-mortem examinations on the books of the asylum in which a mistake in diagnosis had been made between pleurisy and pneumonia in children.

The Chairman presented four specimens removed in operations upon the lower jaw of as many different patients.

Miscellany.

Oliver Wendell Holmes to Fordyce Barker.—At the last meeting of the New York Academy of Medicine, held February 5th, Dr. James P. Chadwick, of Boston, read the following open letter:

"Boston, *February 4, 1885.*

"My dear Dr. Barker: You must allow me to join my best wishes to those of the friends who will surround you as you take leave of the office which you have filled so ably and happily.

"I trust that you have not forgotten the day when you were with us at the opening of our Boston Medical Library. I know full well that we remember your presence, and how much it added to the pleasure of the occasion. Our Library Association, I hardly need tell you, has proved eminently successful—I want to say because you smiled upon its birth, but I dare not, for you have smiled upon a great many births, not every one of which, perhaps, has had the good fortune of the infant institution which you joined us in welcoming.

"You may have learned some of our secrets during that visit. Who knows? There are sparks of intelligence still left among us. At any rate, ever since you left Boston we have kept an eye upon you. As soon as it was learned that you had been spending some little time here, you were made president of the New York Academy of Medicine. As soon as you got back, for *some* reason, the Academy took a new start, and has been flourishing ever since. All my informants agree about the fact, and they add that it is due to your own faithful administration and energetic efforts.

"We of Boston congratulate our brethren of New York that they have had the great advantage of your services during these last eventful years. The gratitude of the medical profession will keep alive the memory of its past benefactors. We must trust the future for its *vis a fronte*, but in the broadest and loftiest period of progress the leaders will look back to the days of up-hill work when our honored friend lent all his vigor to that *vis a tergo* which they will feel pressing them forward to larger and higher achievements.

"Pardon me for addressing this open letter to you. You can retire 'to blush unseen' while some friend is reading it, if it is thought worthy of that honor. "Always faithfully yours,

"Oliver Wendell Holmes."

The Medical Society of the County of Kings.—At the sixty-fourth annual meeting, held January 20th, officers for the ensuing year were elected as follows: President, Dr. J. A. McCorkle; vice-president, Dr. B. F. Westbrook; secretary, Dr. Z. T. Emery; assistant secretary, Dr. G. R. Butler; treasurer, Dr. W. B. Chase; librarian, Dr. J. A. Ray; censors, Dr. Charles Jewett, Dr. A. R. Matheson, Dr. J. T. Conklin, and Dr. William Wallace.

The following circular, issued by the society's committee, consisting of Dr. Francis H. Stuart, Dr. Alexander Hutchins, and Dr. A. J. C. Skene, relates to a most commendable undertaking:

"The medical profession of the city and the general public have long experienced the want of a central plan of registry for nurses. Time valuable to the sick has been lost in the search for a nurse. It has not been an infrequent experience for a messenger to spend hours in the effort to secure one. One was not at home, another engaged, a third would not take such a case, a fourth was not suitable, and so on till a long list furnished by the physician was exhausted. If one was at last obtained, it was by accepting what could be had rather than what was needed. There has been no means of knowing the qualifications and fitness of nurses. Nor has the misconduct of nurses in given cases been known except to the parties who suffered from such misconduct. To meet this long-felt want the Medical Society of the County of Kings has resolved to establish a Directory for Nurses, at the library of the society, 398 Fulton Street, between Smith Street and Gallatin Place. The support and co-operation of the *entire* medical profession is earnestly invited to this project. Its success depends upon this support. It can be given best in the following ways:

"1. By sending to the secretary a list of the names and addresses of all the nurses who from personal experience you can recommend. *Please do this at once.*

"2. By inducing all your nurses to register immediately; and,

"3. *By procuring hereafter every nurse you need through the Directory.* This last is especially important, as it accustoms both patients and nurses to use the Directory, and teaches them its value. If you wish to get one of your usual nurses through the Directory, it will only be necessary to furnish your patient with a list of those you desire. The secretary will refer your patient to any of them that may be disengaged.

"To all nurses so vouched for, whether graduates of training schools or not, will be sent applications requiring them to state name, residence, age, length of experience in nursing, from what training school, if any, he or she has a diploma, whether any particular branch of nursing is preferred to others, whether willing to go to contagious diseases or insanity, the price per day and per week, and the names of three or four physicians and of a like number of families as references. These will be inquired of and the answers filed. The application of each nurse will be carefully and conscientiously examined by the committee, and, if accepted, will be permitted to register. The information regarding each nurse will be recorded in index-books specially prepared for the purpose. Nurses will be required, after they have registered, to keep the Directory informed of all engagements and when an engagement has terminated; to likewise notify the Directory of his or her readiness to respond to another call.

"This is an outline of the work proposed. Such directories have been in successful operation for several years in Boston and Philadelphia. In those cities they are now regarded as necessities. It is hoped that by the cordial interest and support of the medical profession of Brooklyn and vicinity this Directory may serve a like beneficent purpose.

"A fee will be charged each nurse on registering, and a fee will be charged those for whom information regarding disengaged nurses is furnished. At an additional charge, the nurse will be found and sent to the house. Telephone connection and District Telegraph messenger service will be made use of. Every effort will be made to secure the utmost promptness and efficiency.

"A committee of ladies interested in the success of the enterprise will assist the committee of the society in conducting the Directory.

"The charges will be as follows:

"For registration (paid only once, by the nurse)	$3.00
After May 1, 1885, this charge will be	5.00
"For furnishing addresses of disengaged nurses (paid by the patient)	
between 7 A. M. and 6 P. M.	1.00
between 6 P. M. and 10 P. M.	2.00
between 10 P. M. and 7 A. M.	3.00
"For finding and sending nurse, an additional	1.00
"For wet nurses (uncertified)	5.00
"For wet nurses (certified after special medical examination)	10.00

"All charges must be paid in person or by letter, cash in advance.

"When a nurse is ordered by telegraph the money must be sent by telegraphic money order in advance."

The Collective Investigation of Disease.—The Collective Investigation Committee of the Medical Society of the State of Pennsylvania has issued circulars with regard to acute pneumonia and acute rheumatism. As regards pneumonia, the circular calls for information about its epidemic prevalence, its communicability, its association with other prevalent diseases and with defective sanitary conditions, its symptoms, duration, and result, and its treatment. In the case of rheumatism, the queries relate to its antecedents, the frequency with which certain symptoms occur, the common ailments to which those who suffer from it are liable, the climatic conditions with which it is associated, and its treatment.

The Health of Michigan.—Under date of February 5th, the secretary of the State Board of Health, Dr. Henry B. Baker, summarizes the reports made to the board by various local observers for the month of January. The summary shows that, as compared with the average for the same month in the seven preceding years, there was an increase of neuralgia and erysipelas, and a decrease of pneumonia, diphtheria, intermittent fever, measles, dysentery, remittent fever, and scarlet fever. Diphtheria was reported from forty-two towns, measles from four, and small-pox from one town, South Boardman.

The Death of Dr. John Montgomery, of Adrian, Ohio, a physician well advanced in years, and of a most creditable record, took place at his home on the 29th of last month. The deceased was a graduate of the Western Reserve Medical College, of Cleveland, and the father of our esteemed contributor, Dr. Liston H. Montgomery, of Chicago. In an extended and appreciative obituary notice of the late Dr. Montgomery, the "Tiffin Tribune" says: "He was a man of pure character, of broad culture, and deeply impressed with the responsibilities of his profession. He was a diligent student to the end of his life."

The New York County Medical Association.—At the next meeting, to be held Monday evening, February 16th, at the College of Physicians and Surgeons, Dr. Theodore R. Varick, surgeon-general of the State of New Jersey, will read a paper on "The Protective Treatment of Open Wounds."

THERAPEUTICAL NOTES.

Terpene in Chronic Affections of Mucous Membranes.—M. D'Estrées ("Bull. gén. de thérap.") speaks highly of this preparation of turpentine in chronic bronchitis and nephritis. He administers it in doses of from three to six grains. It appears to have a specific action.

A Local Application for Elongated Uvula.—M. Monin ("Union méd.") employs the following mixture:

Hydrochlorate of morphine	4 grains;
Bromide of potassium	1 drachm;
Tincture of coca	2 drachms;
Glycerin	1½ oz.

The back of the pharynx and the soft palate are to be painted with this solution, to relieve the cough caused by elongation of the uvula.

Kola.—M. Monnet ("Bull. gén. de thérap.") has made an exhaustive study of the physiological and therapeutical properties of this drug. He draws the following conclusions from his experiments: Kola acts as a cardiac stimulant, increasing the number, force, and regularity of the contractions. This property is probably due to the caffeine and theobromine contained in the nut. At a further stage of its action it regulates the pulse, increasing its amplitude while it renders it slower. Since it has a decided diuretic action, kola is especially recommended in cardiac affections accompanied by dropsy. In general, it may be said that the drug increases the contractions of the smooth muscles, while it paralyzes the striated. It has marked tonic properties, and is therefore indicated in anæmia and chronic wasting diseases. Kola favors digestion, either by increasing the secretion of the gastric juice or by causing increased contraction of the smooth muscular fibers. It would seem to be specially indicated in atonic dyspepsia. It is a valuable remedy in chronic diarrhœa, but its exact action in this direction is not known.

Antiseptic Medication of the Intestinal Tract.—M. Dujardin-Beaumetz (*Ibid.*), in a recent lecture upon this subject, recommends the following as a safe and efficient intestinal antiseptic:

Essence of peppermint	30 drops;
Bisulphide of carbon	6 drachms;
Water	1 pint.

From eight to twelve tablespoonfuls of this solution are to be given daily. It is affirmed that, when diluted to this extent, the bisulphide of carbon is innocuous and has a specific action on the germs of putrefaction within the intestine. It is necessary to add water to the solution as fast as it is withdrawn; otherwise the bisulphide loses its properties.

The Local Use of Rhigolene.—Dr. B. W. Richardson ("Lancet") recommends the local application of rhigolene in cases of burns. He makes a saturated solution of spermaceti in rhigolene, and adds camphor to saturation. The mixture is applied to the burn on a piece of cotton. The rhigolene evaporates at once, and leaves a coating of camphor and spermaceti. The relief is said to be almost immediate. Iodine dissolved in rhigolene (five grains to the ounce) is stated to form an excellent spray for ulceration of the throat or as an antiseptic for foul wounds. The author says that a very useful antiseptic liquid for inhalation may be made by mixing rhigolene with strong ammonia-water, and then decanting the water off. If camphor is added to this solution, a perfect preservative fluid is obtained, in which fresh organs may be placed at once.

Oil of Turpentine in the Treatment of Diphtheria.—Dr. Jósefowicz ("Centralbl. f. d. ges. Therap."; "Jahrb. f. Kinderheilk.") has treated several cases of diphtheria with this drug, used both internally and locally. He affirms that under this treatment the membranes rapidly separate or are dissolved, while the general condition of the patient is speedily improved. The effects of the drug upon the kidneys are regarded by him as transitory and not at all serious.

The Treatment of Dysentery with Iodide of Phenol.—Rosenfeld (*Ibid.*) recommends this drug highly. He uses the following mixture:

Pure iodine	4 grains;
Carbolic acid	8 "
Glycerin	1 ounce.

From one to two teaspoonfuls are given, in an enema, three or four times a day. The bloody stools cease, and the tenesmus rapidly subsides under this treatment. Of a hundred and forty-two patients who were treated in this manner during an epidemic of dysentery, only six died.

An Antiseptic Inhalation for Whooping-cough.—M. Bouchut ("Union méd.") suggests this preparation:

Essence of thyme	2½ drachms;
Alcohol	8 ounces;
Water	24 "

This solution may either be used for inhalation, or be boiled and the vapor allowed to spread through the room in which the patient sleeps. The writer recommends that at the same time a teaspoonful of syrup of carbolic acid be administered three times a day. Five ounces of this syrup contain two grains and a half of carbolic acid.

Original Communications.

ON SURGICAL TUBERCULOSIS.

By R. J. HALL, M.D.

(Concluded from page 154.)

Besides those already mentioned, the most important reports on the discovery of tubercle bacilli in surgical lesions are the following: Schuchardt and Krause,[*] already referred to, demonstrated the bacilli in ten cases of synovial and three of bone tuberculosis in the lining membrane of fourteen tubercular abscesses, none being found in the pus which they examined from four of these; in three cases of tubercular glands, three of tubercle of the skin and lupus, one of the sheaths of the tendons, and one of the muscles. In all these the bacilli occurred very sparingly. In a tubercular nodule in the tongue, a tubercular testicle, and two cases of tubercular disease of the female genital organs, on the other hand, the bacilli were very abundant. Bacilli were found in all the tubercular lesions they examined. Demme[†] found the bacilli in two cases of ozæna scroph., as well as in the three cases of lupus mentioned before. Chiari[‡] found them in pus from carious disease of the vertebræ, and from tubercular cervical lymphomata. Celli and Guarneri,[#] in scrofulous lymphatics; they also made successful inoculations from these, but failed to find any bacilli in three tubercular joints and four cases of lupus. Brouilly[‖] found them in an abscess of the epididymis, a fungoid tendo-synovitis, a tubercular abscess of the thorax, and a fungoid osteitis of the rib—very sparingly in all. Wesener,[△] in two tuberculoses of the testicle and epididymis, two of the female genital organs, two of the bladder, and in pus from a tubercular ulcer of the neck. F. Marchand[◊] found it difficult to find the bacilli in fungoid joint diseases and in pus from the same. Debove[‡] found them in pus from tubercular epididymitis, a presternal and a costal abscess. W. Müller[‡] found the bacilli, as a rule, in thirty to thirty-five cases of fungoid disease of bones and joints. He found none in a number of cases, even after examining twenty or more preparations, and these were especially such as were undergoing spontaneous cure. In four cases the bacilli occurred in very large numbers. Coze and Simon[‡] have seen them in the granulations of fungoid joint disease, and sometimes in pus from the same; also in the purulent discharge from the uterus of a patient with pulmonary tuberculosis. Kanzler,[**] in four cases of osteomyelitis and osteosynovitis, and fourteen times in pus from thirty-one cases of tubercular disease, including suppurating lymphomata (7 [2 positive]), bone and joint disease (13 [8 positive]), ulcers of skin, (7 [4 positive]), of nasal mucous membrane (2, negative), and suppurative otitis media (2, negative). Gondolphe[*] found them in pus from cold abscesses, in fungoid disease of bones and joints, tubercular epididymitis, and renal tuberculosis. M. Hanat[†] publishes a case of panaritium, either originally tubercular, or, as suggested by a reviewer, possibly infected by the bistoury used to incise it, and followed by a tubercular ulcer of the forearm; in the pus and in sections large numbers of bacilli were found. Koch,[‡] besides the cases already referred to, has examined thirteen of joint and ten of osseous tuberculosis, finding the bacilli in all, and failing to find them only in pus from one case, where, however, inoculation was successful. He found them, further, very sparingly in five tubercular testicles; very abundantly, on the other hand, in four cases of tuberculosis of the pelvis of the kidney, one of the bladder and urethra, one of the supra-renal capsule, and one of the uterus and tubes. No bacilli were found in the pus from an abscess of the kidney, but inoculation gave a positive result. Eschle[#] has found abundant bacilli in the discharge from two cases of suppurative otitis media, both patients having pulmonary tuberculosis. Voltolini[‖] describes a similar case, the bacilli being also very abundant. The same author[△] found bacilli in three cases of pharyngeal tuberculosis, all accompanied by tubercular disease of the lungs or larynx, and mentions that he usually finds them in the secretion from laryngeal ulcers. In a later publication[◊] he gives in detail an interesting case of a child of five years in whom the first symptom was the appearance of bilateral cervical lymphomata, followed by hoarseness and, subsequently, aphonia. Only the swollen epiglottis could be seen laryngoscopically, and a certain diagnosis was made only by the discovery of tubercle bacilli in the secretion. B. Fränkel[‡] had some time previously announced the regular occurrence of the tubercle bacilli in the secretion from tubercular laryngeal ulcers, having found them in twenty-two cases examined during life, and five after death. During the discussion which followed the reading of Fränkel's paper, Lewin[‡] stated that he had succeeded in finding the bacilli in the same way. Some doubt was thrown on the reliability of Fränkel's observations by Friedländer, because in the preparation presented to the society no tubercle bacilli were to be seen. The preparation, however, was some weeks old and faded, and at the next meeting of the society Fränkel was able to make a satisfactory demonstration of a number of preparations. Guttmann[*] has recently reported two cases of tubercular ulcers of the soft palate, in both of which immense numbers of bacilli were found.[†]

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[*] "Fortschritte der Med.," 1883, No. 9.

[†] "Prag. med. Wochenschr.," 1883, No. 1. Ref. in "Cent. f. klin. Med.," 1883, No. 12.

[‡] "Ber. klin. Wochenschr.," 1883, No. 15. Tuberkelbacilli im Kindesalter.

[#] Ref. in "Cent. f. klin. Med.," 1883, No. 34.

[‖] "Rev. de chir.," 1883, No. 11.

[△] "Deutsche Arch. f. klin. Med.," B. xxxiv, S. 583.

[◊] "Deutsche med. Wochensch.," 1883, No. 15.

[‡] "Le progrès médical," 1883.

[‡] "Centralbl. f. Chir.," 1884, No. 3.

[‡] "Bull. gén. de thérapeutique," 1884, p. 241.

[**] "Berl. klin. Wochenschr.," 1884, Nos. 2 and 3.

[*] "Lyon médical," 1884, No. 18.

[†] "Bull. de la soc. des hôp.," 1884.

[‡] "Mittheil.," B. ii, 1884.

[#] "Deutsche med. Wochensch.," 1883, No. 30. Tuberkelbacilli in dem Ausflusse bei Mittelohreiterungen von Phthisikern.

[‖] "Deutsche med. Wochenschr.," 1884, No. 2. See also "Zeitschrift f. Ohrenheilkunde," B. xiii, S. 202. A. Gottstein, Die bisheregen auf das Vorkommen von Tuberkelbacillen bei der Otorrhöe gerichteten Untersuchungen, etc.

[△] "Breslauer ärtzlich. Zeitschr.," 1884, Nos. 7 and 8; ref. in "Centralbl. f. klin. Med.," 1884, No. 30.

[◊] "Deutsche med. Wochensch.," 1884, No. 24.

[‡] "Berl. klin. Wochenschr.," 1884, No. 4.

[‡] "Berl. klin. Wochenschr.," 1884, No. 3. Verhandl. der Berlin. med. Gesellsch.

In a review of the literature given above it will be seen that, as a rule, the bacilli are abundant in tubercular lesions of mucous membranes and internal organs, while they are found very sparingly in those of the skin, bones, and joints —a rule, however, not absolutely without exceptions. Two important practical subjects remain to be considered—namely, the means of diagnosis at the command of the surgeon, and the indications for treatment.

For the first, as a rule, the clinical diagnosis is not difficult. All that we have been accustomed to consider scrofulous must be classed as tubercular, with the exception, probably, of those superficial affections of the skin and mucous membranes which are rather diseases of the scrofulous than scrofulides. No doubt, also, further observation will show the presence of the bacillus in some of these apparent exceptions.[‡] But far more than this must be included. Its forms are so various, and its course so dissimilar in different cases, that sometimes before operation only a probable diagnosis can be made, and that largely by exclusion. We must be prepared to recognize tubercular lesions of the bones, the joints, the skin, etc., in both children and adults, who, except for this one affection, present all the appearance of the most blooming health. We must be prepared to find it running an acute course, in a bone or joint, for instance, producing in a few days, or weeks, an amount of disorganization that would ordinarily require months or years; and again existing in the same situation for the greater part of a lifetime, and scarcely causing derangement of function.

Usually the gray, gelatinous, miliary tubercle, either on the surface of a membrane, or scattered through the tissues, with here and there white specks, denoting caseous degeneration, can be readily recognized with the naked eye. Not very infrequently, however, cases will occur in which neither clinically, nor on microscopic examination, a certain diagnosis can be made. The question then arises, Have we any simpler means than the tedious and difficult examination for the usually small number of bacilli ?

It is quite certain that neither the epithelioid nor the giant-cell is characteristic of tubercle.[*] While it may be true, as Ziegler states, that, "for the later stages of the tubercle nodule, caseation is characteristic,"[†] yet this is not always present, and closely similar degenerations occur as the result of so many pathological processes that it can not be relied on for the diagnosis.[‡] Giving up, then, as has been done in regard to all other pathological processes, the idea of a specific cell form, pathologists have fallen back upon the characteristic structure of the tubercle. This consists, as defined by Ziegler,[#] in "a non-vascular nodule (Knötchen), which does not grow beyond a certain size, and, having attained a certain stage of development, undergoes cheesy degeneration." We may add to this, as Ziegler does a little farther on, that usually many of the cells are epithelioid, and that the nodules usually contain one or more giant-cells. Even this characteristic structure, or something very similar, can be produced by the irritation of various foreign bodies, if we may rely on the statements of Baumgarten[‖] and the experiments of H. Martin,[△] who professes to have produced, by the action of various irritant foreign bodies, a structure histologically identical with true tubercle, and differing from it only in being non-infective.

Be this as it may, however, the fact remains that before the discovery of the tubercle bacillus the whole domain of tubercular lesions had been mapped out entirely by the aid of the histological criterion, and that since Koch's discovery the bacillus has not been found except in tissues presenting the characteristic structure, nor, so far as investigations extend at present, has the bacillus been wanting in any form of the disease which had been classed as tubercular on anatomical grounds.

Practically, therefore, the simple microscopic examination of the tissue affords a perfectly reliable and simple means of diagnosis. Where sufficient material can not be obtained for this purpose, we can only have recourse to inoculation, or to the method described by Unna,[◊] who found that by partially digesting hardened specimens, and examining the precipitate that had fallen, the bacilli were observable in quantity. As regards treatment, the discovery of the bacillus has taught us, when local recurrence takes place after operation, to seek for the cause, not in any mysterious predisposition of the tissues to tubercular inflammation, but in the failure to completely remove the infecting material. As for any specific action by internal treatment, we are apparently farther from success in this direction than ever. Buchner[*] and Kempner[†] have indeed reported favorable results from the treatment of pulmonary tuberculosis by arsenic, and Landerer[‡] and von Langenbeck[#] in a small number of cases of fungoid disease. Stintzing,[‖] on the other hand, in sixteen cases of phthisis, most carefully observed, found practically no benefit at all. Parrot and Martin[△] found the bacillus more resistant than that of splenic fever. Solutions of corrosive sublimate, salicylic acid, superoxygenated hydrogen, bromine, quinine, and creasote, in the strength of 1 to 1,000, were all useless. Carbolic-acid solution, three per cent., was effective only after forty-eight hours, and six per cent. failed in twenty-four hours. With these figures in view, I am inclined to receive Doutrelepont's[◊] report of favorable results in lupus, from the application of 1-to-1,000 corrosive-sublimate solution, with great reserve. Koch[↕] gives the following result of his and Gaffky's experiments in this direction: "At different times rabbits received injections of pure cultures (of tubercle bacilli) in the anterior chamber of the eye, in order to test the influence of substances which interfere with the development of the tubercle bacillus, . . . besides numerous other substances, arsenic, helenin, and sulphureted hydrogen were administered to the animals, and always in the largest possible doses, and for weeks at a time. We have not been able to observe a favorable action by any substance in a single case. All the animals died tubercular, just as rapidly as those which were not treated." Koenig,[↕] moreover, after stating that he has for years past carefully tested the different agents recommended, especially iodine, mercury, and arsenic, and that none of them have shown anything like a specific action, continues: "In no single case have I been able to determine that arsenic had a permanent good or bad influence on the course of the disease, whether situated in the joints, in the skin, or in the kidneys." Invaluable as iodoform still proves as a dressing, especially after operation in tubercular cases, it has certainly not satisfied the expectations excited by Mosetig-Moorhof's[*] and Mikulicz's[†] earlier publications. Although Marchand,[‡] by proving that iodoform causes the rapid disappearance of giant-cells from the inflammatory products surrounding foreign bodies, has given some anatomical evidence in favor of a possible special action of iodoform on granulations containing these, yet the fact that even those surgeons who use iodoform most extensively demand at the same time the complete extirpation of all tubercular tissue, does not speak strongly in favor of a specific action.

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[*] "Deutsche med. Wochensch.," 1884, No. 21.

[†] See also "Orvosi hetilap.," No. 32, 1882; ref. in "Centralbl. f. Chir.," 1883, No. 51. V. Babes, Tuberkelbacillen in der Scheide, in der Urethra, in Geschwüren circa anum und an der Lippe. The ulcer of the vagina and lip were in the same patient. Bacilli abundant in all. Tubercular serous effusions. MM. Chauffard et Gombault, "Bull. et mém. de la soc. méd. des hôpitaux"; ref. in "Lancet," August 30, 1884. Inoculated twenty-three guinea-pigs with serous, sero-fibrinous, or purulent effusions of tubercular character from pleura or peritonæum of twenty-one patients. Inoculation intra-peritoneal, four guinea-pigs died rapidly, nine showed no tubercles after three to four months, ten tubercular, and bacilli in all. No bacilli found in the effusions.

[‡] Unna recognizes four affections of the skin due to the tubercle bacillus, lupus vulgaris, tuberculosis cutis (Kaposi), lupus papillaris (Alibert), and *scrofulous eczema*, followed by caseous glands. "Brit. Med. Jour.," 1884, August 30, p. 426; "Report of Internat. Med. Congress," 1884, Depart. of Dermat. and Syph.

[*] Ziegler, "Lehrbuch der allgem. und spec. patholog. Anatomie," 2te Aufl., 1ter Theil, S. 179. See, also, Virchow's "Arch.," 95, H. 2, S. 249; Dr. Edward Kraus, "Beiträge zur Riesenzellenbildung in epithelialen Geweben," and Keil, Virchow's "Arch.," 93, H. 3, S. 518; Dr. Emil Marchand, Ueber die Bildungsweise der Riesenzellen um Fremdkörper und den Einfluss des Iodoforms hierauf.

[†] Ziegler, *op. cit.*, S. 178.

[‡] See Virchow's "Arch.," 97, H. 1, S. 21; Baumgarten, Miliare Gummigeschwülste der Milz, nebst Bemerkungen über die anat. histol. Differentialdiagnose zwischen Gummata und Tuberkeln.

[#] Ziegler, *op. cit.*, S. 179.

[‖] Virchow, "Arch.," 97, H. 1, S. 29. Miliare Gummigeschwülste der Milz, etc.

[△] "Arch. de physiologie," 1881, tome vii, p. 131. Tuberculose des séreuses et du poumon, pseudo-tuberculose expérimentale; and *ibid.*, tome viii, p. 49. Nouvelles recherches sur la tuberculose spontanée et expérimentale des séreuses.

See, also, Ziegler, "Exper. Untersuch. über die Herkunft der Tuberkelelemente," Würzburg, 1875, and "Untersuch. über patholog. Bindegewebs- und Gefässneubildung," Würzburg, 1876; ref. in "Lehrbuch," 2te Aufl., 1ter Theil, S. 162.

[◊] "Internat. Med. Congress," 1884, Section in Dermat. and Syphilis. Report in "Brit. Med. Jour.," August 30, 1884, p. 425.

On the other hand, a more intimate acquaintance with the course of tubercular processes, and especially the observations of Baumgarten,[#] who, in about every third or fourth cadaver, dead from other causes than tuberculosis, finds some vestiges of tubercle, prove that it is by no means always the malignant process that observation of only the more acute cases would lead us to believe; that, in fact, many cases tend to spontaneous recovery. I am inclined to think myself that, in most cases, the course which the disease will take is settled from the first, either by the nature of the soil or the amount of the infecting material, and that it is far less influenced by treatment, whether general or local, other than operative, than surgeons generally suppose.

When the specific character of the disease was first recognized, and the frequency noted with which subjects of fungoid or other local tubercular processes fell victims to acute miliary or pulmonary tuberculosis, it was but natural that surgeons should have advocated early operative interference for the sake of prophylaxis.[‖] This ground has been completely cut away by the statistics of Koenig,[△] already mentioned, according to which, in seventy-nine per cent. of all cases of tubercular bone and joint diseases examined, older tubercular deposits were found as the probable source of infection. Baumgarten's work, cited above, makes it probable that in a still larger percentage of cases the surgical affection is secondary. The failure of these too sanguine expectations, the small but nevertheless noticeable number of cases in which acute tuberculosis directly follows operative interference,* and, above all, the frequency of local recurrence, added to the often unsatisfactory results as to function after resection of joints, have caused a decided reaction in favor of more expectant treatment. Now, as before, however, we possess but one means of limiting or cutting short the local tubercular processes—that is, the complete extirpation of all the diseased tissue, as advocated by German surgeons in general, and especially by Volkmann in 1879,† and recently at Copenhagen ‡—and as improvements in operative technique and wound-dressings diminish day by day the dangers, and render results more certain and satisfactory, we shall, I am confident, have recourse more and more frequently to early and radical operation.

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[*] "Die ätiologische Therapie und Prophylaxis der Lungentuberculose," München and Leipzig, 1883; ref. in "Fortschritte der Med.," 1883, No. 18, S. 590.

[†] "Ueber die Behandlung der Tuberculose mit Arsen," "Berl. klin. Wochenschr.," 1883, No. 31.

[‡] "Centralbl. f. Chir.," 1883, No. 47.

[#] "Berl. klin. Wochenschr.," 1884, No. 19, S. 301.

[‖] "Zu Buchner's ätiologischer Therapie der Lungentuberculose," "Aertzliches Intelligenzblatt," 1883, No. 30, and "Centralbl. f. klin. Med.," 1883, No. 32.

[△] "Rev. de méd.," 1883, No. 10.

[◊] "Monatsch. f. prakt. Dermat.," 1884, No. 1; ref. in "Centralbl. f. klin. Med.," 1884, No. 14.

[↕] "Mittheil.," B. ii, S. 69. See, also, Schill and Fischer, *ibid.*, S. 131. Ueber die Desinfection des Auswurfs der Phthisiker. Sputum treated in different ways and tested by inoculation, five-per-cent. carbolic-acid solution, effective on bacilli and spores in twenty-four hours. No other disinfectant, even very strong, including 1-to-500 corrosive-sublimate solution, of value. Fräntzel, "Verhand. des 2ten Congresses f. innere Med.," Ueber Tuberc. "Cent. f. klin. Med.," 1883, No. 37. Used inhalations on human subject of menthol, camphor, naphthalin, creasote, aniline, crude carbolic acid, and mercury, without result. Hiller (*ibid.*) used inhalations of gases, steams, sprays, parenchymatous injections into the lung, subcutaneous injections and internal administration of different substances, including corrosive sublimate, iodoform, bromine, ethyl and methyl alcohol, arsenious [and boric acids, with no effect on the process in the lung or on the bacilli.

[↕] "Tubercul. der Knochen und Gelenke," Berlin, 1884, S. 89. See also "Fortschritte der Med.," 1883, No. 21. Dr. Alb. Johne, Die käsige Pneunomie, speciell die sogen. Hüttenrauch-Pneumonie oder Hüttenrauchtuberculose des Rindes. Remark on page 690.

[*] Volkmann's "Samml.," No. 211. Der Iodoform-Verband.

[†] Langenbeck's "Arch.," S. 196. Ueber die Verwendung des Iodoforms bei der Wundbehandlung und dessen Einfluss auf fungöse und verwandte Processe.

[‡] Virchow's "Arch.," H. 3, 93, S. 518. Ueber die Bildungsweise der Riesenzellen um Fremdkörper und den Einfluss des Iodoforms hierauf.

[#] Volkmann's "Samml.," No. 218. Ueber latente Tuberculose.

[‖] Hueter, "Die Scrophulose und ihre locale Behandlung als Prophylaxe gegenüber der Tuberculose," Volkmann's "Samml.," No. 49, and "Wiener med. Wochenschr.," 1882, No. 19. Ueber Behandlung der Lymphome.

[△] "Tuberc. der Knoch. und Gel.," 1884, S. 33.

CERVICAL PREGNANCY.#

By E. E. MONTGOMERY, M. D.,

PHILADELPHIA.

The writer was asked by Dr. Alexander, on December 10th, to see, in consultation, a patient with the following history:

A married woman, who had borne eight children; the last labor terminated by forceps; had been pregnant about three months; the pregnancy was attended with no abnormal symptoms until two weeks ago, when there was a slight discharge of blood; this continued until within two days, when severe pains of an expulsive character occurred, accompanied by free discharge of blood. At the consultation she was found suffering from more or less continuously severe expulsive pains; face was quite pale, and clothing covered with blood.

Introducing two fingers into the vagina, a large globular tumor could be felt as occupying the position of the cervix, filling up the pelvis, and the os turned back and situated so high that the fingers could not be passed around the anterior lip without producing unbearable pain from pressure of the hand upon the external parts. The anterior lip was softer and less resisting. To the left side could be felt a fissure, as from a previous laceration of the cervix, within which was distinguished a mass apparently having a fibrous connection with the cervix. This appearance, with the distended cervix, led to the diagnosis of a possible polypus complicating and probably inducing the abortion. It was decided to place her under an anæsthetic, and determine more fully the condition. Under ether, the anterior lip was found to terminate, at the os, in a membranous surface, over which the fingers could be passed into the cervical canal, which was greatly dilated. Breaking through the membrane, the true nature of the condition was disclosed to be one of cervical pregnancy. The placenta was attached principally to the anterior segment, though a thinner layer covered the posterior wall. The placenta was not so intimately connected with the mucous surface as in a uterine pregnancy at the same period, and was thinner than the ordinary placenta of the third month. The most intimate connection of the fœtal envelopes was at the margins of the os, where the membranes hung in fringes which could not be pulled away. After removal of the mass, the cervical canal was large, hollowed out, and the body of the uterus could be felt above it, something like the neck upon a bottle. The body would barely admit the finger, and was lined with a deciduous membrane. The fœtus escaped notice during the expulsion of the mass, but was discovered subsequently upon the patient's clothing. It was three inches long, and comparatively well developed.

A review of the literature of this condition shows it to be extremely rare, Lusk's only, of the text-books upon obstetrics, giving it mention, and that incidentally in the discussion of placenta prævia. Rokitansky was the first, and only one, to draw attention to these peculiar cases in which the ovum finds itself in the cervix uteri instead of the body, and which he describes as so-called secondary cervical pregnancy. He concludes that in these cases an ovum, after fixing itself in the membrane of the uterus, and after complete clothing with a decidua reflexa, is soon driven downward by uterine contractions into the cervical canal, its attachment lengthening into a stalk, by the growth and stretching of the decidua and the uterine glands, detachment not taking place; that the ovum continues to grow in the cervical canal, distending it and constituting a true cervical gestation. The free-hanging ovum thus excites uterine contractions, and occasions, from time to time, hypostatic mechanical hyperæmia, and then floodings.

The death of the embryo is readily produced under these circumstances; and it may happen when the ovum is ruptured by the contractions or burst by exertion, the embryo escaping. A considerable portion of the membrane, or at least the stalk, may remain behind, and form, with the bleeding, a fibrinous polypus, by the accretion of coagulum and fibrinous layers. Kiwisch attributes these to the retention of the fibrinous portion of the coagulum in hæmorrhage.

An extract from a report of a case by W. Hinck, in "L'Union médicale," January, 1861, illustrates the occurrence of this unusual form of pregnancy:

A woman, aged twenty-two, believed she was pregnant for the first time in December. She had enjoyed good health until that time, when, after a fit of violent anger, lumbar pains and metrorrhagia appeared. She was admitted to the hospital with symptoms of puerperal metritis. Examination gave the impression of two tumors in the abdomen, one under the other. Through the os externum uteri the head of the child was distinctly felt. A fœtid discharge took place from the vagina, and irritative fever set in. Afterward the patient felt something pass; a placenta of the size of the palm of the hand escaped, saturated with ichor. Attempts were made with the caoutchouc pessary to provoke labor. An enormous quantity of fœtid ichor escaped when the pessary was withdrawn. The fœtus was extracted by the hand; it was in a state of decomposition. The finger then passed into a cavity full of ichor, larger than a child's head, situated in the middle of the abdomen. The patient only survived a few days. On the dissection, the uterus was found consisting of two parts, quite distinct; the body of the volume of a hen's egg, which contained a remnant of placenta, and a cervix of which only the posterior wall and the two lips of the vaginal portion remained distinct; in the remainder of its periphery it was lost in the walls of the sac of ichor. The diagnosis pronounced by Rokitansky, to whom the particulars were submitted, was "Necrosis cervicis uteri dilatatæ et retenti fœtus."

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* Koenig, "Tuberc. der Knoch. und Gel.," 1884, S. 46, and Charvot, "De la tuberc. chirurg.," "Rev. de chir.," 1884, No. 9, p. 736.

† "Ueber den Char. und die Bedeut. der fung. Gelenkentzünd," Volkmann's "Samml.," 168, 169.

‡ "International Med. Congress," 1884.

# Read before the Obstetrical Society of Philadelphia, February 5, 1885.

Rokitansky's observations were made upon the dead body, and the ovula thrown off have been exhibited by Dohrn, Mettenbauer, Hegar, and others; but it remained for Schülein to communicate the first clinical observations of pronounced cases of this form of pregnancy. In three cases observed by himself it occurred in primiparæ. A fourth case, which came under the observation of Dr. Veit, concerned a second pregnancy.

All the women were pregnant from two to four months when their symptoms led them to apprehend abortion. They had suffered from labor-like pains and had large hæmorrhages, which, as a rule, had ceased for some months when they applied for treatment at the clinic.

The cervix was more or less distended, according to the month of pregnancy, presented a globular appearance, and the body projected like a protuberance from the surface of the tumor.

One will more frequently have opportunity to observe forms of transition from normal abortion to this condition, although one will dare to give the name of so-called cervical pregnancy only to the more pronounced cases. The condition will be a difficult one to determine in a primipara with tense abdominal walls. In one of Schülein's cases the appearance was similar to that observed in hæmatometra, but etherization showed that only the cervix shared in the distension, and that the body was quite small and placed upon it. The condition may also be confounded with tumors, but the symptoms are usually sufficient to settle the diagnosis. It is difficult to determine the cause for this misplaced gestation.

It is against all preconceived views to suppose that the ovum has developed primarily in the cervix. According to these, it must have glided down into the cervix from its first lodgment in the body. It is difficult to say when this happens, for the patient will usually have bled some weeks before she comes under observation, and it would be difficult, if not impossible, to discover the ovum in the cervix, even in the early stage of development. It is probable the admission of the ovum into the cervix occurs with the very inception of labor-like pains. If the ovum has not completely loosened itself, but still hangs to a pedicle situated in the uterus, which, the investigations of authors named above show, arises from the extended decidua, it can thus be nourished and will increase in volume.

In single, uncomplicated abortion, as soon as uterine activity is excited, be it from an abnormal state upon the part of the mother or the fruit, there is widening of the internal os, into which the point of the ovum is pressed. The cervix stretches more and more; finally the ovum presses through it and the external os, arriving in the vagina, from whence it easily passes away.

If, however, the external os is not dilated, and the uterine contractions do not open it, the ovum is driven down by the continuous uterine activity into the cervix, and there remains.

This disturbance of the course of pregnancy may be occasioned either by abnormal narrowing of the external os, through flexion, abnormal hardness, cicatricial cords, or growths. The same hindrances are observed, now and again, at the close of pregnancy, except that at the latter period the complete expulsion of the fœtus into the cervix is impossible. Many times the expulsion may be incomplete, from the attachment of the decidua to the fundus being too firm to be overcome, when, by the lengthening of the pedicle, a cervical pregnancy is produced independent of narrowing of the external os. Parry cites one case of vaginal pregnancy in which this pedicle existed, and from which the fœtal nourishment was probably derived. Sometimes the opening may be hindered, as Spiegelberg has rendered prominent, by the external orifice of the uterus being situated so far back and upward that the direction of the expulsive force does not concern the dilated place.

If this abnormal narrowing of the external os is held for a principal cause of the occurrence of cervical pregnancy, one should, as is the result, meet with this complication most frequently in primiparæ. One may incidentally meet with an abnormally narrow os in the multipara, which retains like that of the primipara, and at the end of pregnancy can come to the so-called conglutination os described by Naegele and Benicke, and, under similar circumstances, can lead to cervical pregnancy. The abnormal narrowing of the multipara is, however, more frequently due to cicatricial cords and growths of the cervix, which hinder the escape of the ovum. This can occur but rarely in abortions during the early months, for, if the external os, as is mostly the case, is penetrable for the joint of the finger, the point of the ovum is pressed into it, and it will then come to distension or to bursting of the ovum and its expulsion.

The investigations of Müller have led him to believe that placenta prævia is due to abortion begun at an early period, but arrested at the lower uterine segment, to which the villi attach themselves. It does not seem to us an impossibility that the abortion may be arrested after the passage of the ovum into the cervical canal, and the villi may then attach themselves and supply the developing product with nutrition. It is not necessary to suppose that the ovum here meets with soil any less adapted by nature to its needs than if it had escaped into the abdominal cavity and developed an abdominal pregnancy. The history of the case beginning this paper justifies, we think, such a view. In that case the external os had been enlarged by a laceration, and at the examination would admit two fingers; the enveloping membrane of the fœtus was very intimately connected with the external mucous membrane of the cervix—so intimately, indeed, that it appeared continuous, and could not be entirely removed, but hung like fringes from the margin of the os; while there was a decidua lining the uterus, which was not so thick or so firmly attached as to justify the view that it had served as a pedicle to anchor the ovum and sustain its subsequent nutrition, but rather such a sympathetic lining of the uterine body as occurs in unison with ordinary extra-uterine pregnancy.

In the treatment of cervical pregnancy the extreme improbability of the maturity of the fœtus in its abnormal situation, the continuous hæmorrhage, and in many cases the signs of breaking down and decomposition of the ovum and its envelopes, will demand an immediate delivery. This delivery will be difficult or easy, according to the circumstances. The finger may pass readily through the external os, or one must create an artificial opening by distinct incision. The latter was necessary in two of the cases described by Schülein, while in the one seen by the writer two fingers could be introduced without difficulty.

If hæmorrhage occurs, it should be arrested, and, where an incision has been necessary, it will be advisable to introduce a cotton tampon saturated with liq. ferri pernitrat. to prevent adhering together of the wound margins.

1305 NORTH BROAD STREET.

A CASE OF GASTROSTOMY.*

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MRS. C. N., aged fifty-five, born in England, was admitted to the hospital May 7, 1883. Her father and mother died of old age. The patient had enjoyed good health up to nine months previous to her admission, although she had been addicted to the excessive use of both tobacco and alcohol for upward of forty years. Her first symptoms consisted of pains, more or less steady, and occasionally lancinating in character, and referred to the gastric region. Eleven weeks ago she began to have difficulty in swallowing and regurgitation of food. Soft food could be easily swallowed at first, but more recently only liquids could be managed. There was no history of traumatism. She has become greatly emaciated since the first onset of symptoms. Upon admission, she complained of pain upon swallowing, just above the clavicle; liquids were swallowed without much difficulty. Temperature, 100° F.; pulse, 100; tongue furred; bowels constipated.

Examination with an œsophageal bulbous bougie revealed an obstruction at eight inches and a half from the prolabia, through which a No. 8 F. was finally passed; a slight amount of blood followed the withdrawal of the bougie. Stethoscopic examination revealed a bruit, on swallowing, over the sternum and on a level with the second and third ribs.

Within a few days after her admission to the hospital it became necessary to resort to rectal alimentation. The beef peptonoids of Reed & Carnrick were used in this way, and served a useful purpose. Owing, however, to the presence of hæmorrhoids, the enemata were not retained without the previous use of a morphine suppository upon each occasion.

On May 21st, the difficulties in the way of properly sustaining the patient in the meanwhile having increased, I decided to attempt her relief by gastrostomy. Four hours before the operation, with some difficulty she managed to swallow a little whisky and water. Fifteen minutes before the anæsthetic was given, a hypodermic injection of one third of a grain of morphine and one hundredth of a grain of atropine was administered, and at the last moment fifteen minims of dilute hydrochloric acid in a little water, followed by about two ounces of a saturated solution of bicarbonate of sodium, were swallowed by the patient. Amylized chloroform was given to produce primary anæsthesia, and this was followed by ether. An incision was made, two inches and a half long, commencing at the median line and running obliquely from right to left, parallel to and about one inch below the lower border of the seventh and eighth left costal cartilages. The sheath of the rectus was divided on a director and the muscle cut through. No hæmorrhage occurred. The peritonæum being divided, the viscus, presenting at the opening, distended by the carbonic-acid gas evolved from the mingling together of the acid and alkaline-carbonate solution previously swallowed, was identified, by the arrangement of its vessels, as the stomach. The presenting part was transfixed by two long steel pins, such as are commonly used by ladies for hat-pins, placed at right angles to each other, and supported by the abdominal parietes, thus holding the stomach-walls in accurate apposition with the parietal peritonæum. Silver-wire sutures were then passed through the abdominal walls, about three fourths of an inch from the edges of the wound, and through the stomach-wall, an endeavor being made, as far as possible, to only include its peritoneal and muscular coats, and to attach to the abdominal wall a portion of the stomach represented by a circle about two inches and a half in diameter. These sutures were clamped by drilled shot, and a second circle of sutures of carbolized silk was used, uniting the immediate edges of the wound in the abdominal wall to the stomach. The two steel pins were then removed. The operation was conducted under antiseptic precautions, including the spray. A perforated oil-silk protective, dipped in a solution of mercuric bichloride, 1 to 1,000, was placed next to the wound, and a dressing of naphthalinated oakum applied.

The dressings were removed on the fourth day, the patient in the meanwhile remaining as comfortable as before the operation. The condition of the wound was all that could be desired. There was a very narrow line of redness around the edge of the abdominal wound, and the portion of exposed stomach-wall was covered with lymph. The parts were in a thoroughly aseptic condition. Redressed.

On the fifth day the temperature, which up to this time had remained at and below 99° F., rose to 103·25°, and, although but four grains of opium had been given during the preceding twenty-four hours, and that in connection with enemata consisting of beef peptonoids, egg, whisky, milk, and extractum pancreatis, the patient was partially narcotized. There were some tenderness and tympanites. The dressings were removed, and the clamped shot, being found buried in the tissues to some extent, were removed together with the silver-wire sutures, and carbolized catgut was substituted. Wound aseptic. In the evening the temperature rose to 104·5°. A diarrhœa had set in during the day, and three grains of opium had been given in divided doses, at intervals of several hours, for its relief; the patient, however, was decidedly narcotized, and on the following morning, six days after the operation, she sank and died.

At the autopsy, made twelve hours after death, it was found that the visceral and parietal peritoneal surfaces, where they had been brought in contact by the sutures, were pretty firmly united, although they could be separated. The lungs were pigmented and emphysematous; the right lower and left upper lobes were nearly solid, and the outer part of the base of the right upper lobe was passing into the second stage of pneumonitis. The part of the stomach attached to the abdominal wound was the pyloric third, near the lesser curvature. The inflammation was purely local, and did not extend more than ten centimetres from the wound. There was a marked gastritis of a chronic character. The intestines, both large and small, were inflamed, and the vessels of the duodenum and jejunum were very much injected. The enteritis was most marked at the upper part of the bowel. There also existed a slight colitis. The liver was fatty and passively congested. The kidneys were in no way abnormal.

The œsophagus was found to be the site of an extensive carcinomatous deposit occupying about the middle third of the canal. It was permeable through the entire strictured portion, although admitting but a No. 6 F. bougie. Ulceration had not yet commenced.

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* Read before the Brooklyn Pathological Society, together with presentation of specimen, November 13, 1884.

This adds another to the list of fatal cases of gastrostomy for the relief of cancerous obstruction in the œsophagus, and this was not a completed operation. As will be noticed, the first stage of the operation—that of securing adhesions between the parietal and visceral portions of the peritonæum—only was attempted; and this was but partially accomplished, the patient dying from an enteritis and commencing pneumonia before union was complete. From my own observation, as well as the experience of other operators, I am convinced of the propriety of dividing the operation into two stages, as first suggested by Howse, and indorsed and carried out by Bryant, of Guy's Hospital. It was my intention to carry out, in this case, a suggestion made by myself in reporting a former case of gastrostomy *—namely, that of postponing the making of the incision in the stomach as long as possible, in order that greater stability of the adhesions might be secured, and in the meanwhile feeding the patient by means of a fine aspirator needle passed carefully through the portion of the stomach-wall presenting at the abdominal wound. This would enable one to keep the wound and the parts surrounding it perfectly dry, thereby contributing to the comfort as well as safety of the patient. When deemed advisable, perhaps after the lapse of a fortnight, the usual small incision into the stomach might be made.

THE DIAGNOSTIC VALUE OF CILIATED COLUMNAR EPITHELIUM IN CASES OF HYDROSALPINX AND PYOSALPINX.†

By FRANK FERGUSON, M. D.,

LECTURER ON GENERAL PATHOLOGY AT, AND PATHOLOGIST TO, THE LONG ISLAND COLLEGE HOSPITAL, BROOKLYN; PATHOLOGIST TO ST. LUKE'S HOSPITAL, NEW YORK, ETC.

In the "Archives of Medicine," vol. xi, No. 2, p. 205, William M. Thallon, M. D., says of the Battey-Tait operation: "Second, does the fluid come from the Fallopian tube? In determining this second point, my friend, Dr. Frank Ferguson, of New York, has made a most admirable suggestion. As a result of a large number of examinations, he concludes that the presence of cells of columnar ciliated epithelium is pathognomonic."

In the same journal, vol. xii, No. 1, p. 79, in a paper on "Removal of the Uterine Appendages," Mr. Lawson Tait says: "In conclusion, I have only to say that I have examined with great care the contents of many Fallopian cysts, and have never seen, though I have especially looked for, columnar ciliated epithelium. The suggestion of Dr. Frank Ferguson has, therefore, been anticipated and exhausted."

The material which I present to the society to-night shows eighteen Fallopian cysts. These cysts vary in size from a moderate distension of the tube, with occlusion of its fimbriated extremity, to that of an orange. In some instances only one tube is cystic, but in the majority of the cases both tubes are involved. In all the cases which I present the tubes are connected with their uteri, and have been removed post mortem.

They have been removed from subjects varying in age from eighteen to fifty years. Some of the specimens were obtained from single women, some from married women or widows, and some from prostitutes. In almost every instance there have been extensive old pelvic adhesions.

In the recent state I found, in all these cysts of the Fallopian tubes, columnar ciliated epithelium. I have examined the contents of many other cysts besides those exhibited, and with the same result.

Some of the material which I now show has been in thirty-per-cent. alcohol for nearly three years, and this afternoon I found in all these cysts, but one, the epithelial cells which normally line the Fallopian tubes. While ciliated epithelium has been seen in tumors of the ovary, it is so rare an occurrence, and other methods are so entirely at our disposal to distinguish those tumors from hydrosalpinx and pyosalpinx, that it does not detract much from the value of the diagnostic sign now advanced. This variety of epithelium is one of the most easily recognized of all the histological elements which enter into the composition of the human body.

I hoped to be able to demonstrate these cells to you to-night by aspirating the cysts with a hypodermic needle, and placing the fluid withdrawn under the microscope without any special preparation, but there are so many present, and so much material is to be presented by others, that I would deem it a very great favor if the society would appoint a committee to examine the contents of these cysts microscopically.

A STUDY OF ASIATIC CHOLERA DURING THE EPIDEMIC OF 1866.

By CHARLES A. LEALE, M. D.,

PRESIDENT OF THE NEW YORK COUNTY MEDICAL ASSOCIATION.

(*Concluded from page 95.*)

Differential Diagnosis between Asiatic Cholera and Arsenical Poisoning.—The symptoms of poisoning by arsenic have been compared and likened to those of epidemic cholera, and by some writers have been stated to be very much alike, but physicians who have carefully observed each may readily make the differential diagnosis.

In the "American Journal of the Medical Sciences" for January, 1880, I gave an account of five cases of attempted suicide by taking large doses of arsenic, and detailed many of the symptoms I had the opportunity to observe. The symptoms are so different that one familiar with either Asiatic cholera or arsenical poisoning will have no difficulty in making the classification.

The effects of eating putrid cheese are sometimes like many of the symptoms of epidemic cholera. On three occasions I have been called to attend cases of acute cheese poisoning where several members of a family were suffering from violent vomiting and purging entirely different from the ordinary attacks of cholera morbus. In these cases, although we have vomiting, purging, and the collapse or algid stage, yet there are symptoms of fever within the first twenty-four hours, and frequently an eruption appears, so that a differential diagnosis is rendered easy.

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* "Annals of Anatomy and Surgery," vol. vi, 1882, p. 27.

† Read before the Brooklyn Pathological Society, November 13, 1884.

Diet.—As a grateful article of diet in New York, I have found plain clam broth nutritious and well borne during the acute stage. Also, a little later, chicken broth, raw eggs with ice-cold water, milk and water thickened with rice or barley. The pulp of our fresh, ripe fruits, judiciously taken at proper times, I have always found beneficial.

Great caution must be observed during convalescence.

Cholera in the Infant.—Very young infants, in apparently perfect health, do not well tolerate an attack of Asiatic cholera, and children up to the age of twelve also suffer very much. The most rapidly fatal case observed by me, during the epidemic of 1866, was in a child of Peter Crow, aged three years. The little one was playing marbles when I visited his prostrate father, convalescing from the cholera. The child was picked up by a neighbor as he fell in crossing the sidewalk; he was soon vomiting and purging, in collapse in less than an hour, and only the great strength and former robust health of the child enabled him to live through the first hour. He rallied slightly, but in less than seven hours from the time he was at play in the street he was dead. The suddenness of this death caused great terror in those watching him. I did not leave him a moment from a short time after the commencement of the attack till death, but all my efforts proved unavailing; he had been so profoundly overwhelmed by the poison that he died as quickly as from a large dose of arsenic.

Is cholera a disease amenable to treatment? is a question often asked, and by many denied; but experience has taught that a very large proportion of even the severest cases of the disease may end in recovery if the proper medicinal treatment is early resorted to, and our profession can point with pride to its success in promoting a convalescence or, at the early stage, in preventing the violence of the disease from killing the sufferer.

My experience in private practice in New York city, during the epidemic of 1866, strongly tends to confirm this conviction, as in at least ten parts of the city where I was early called to treat the disease all the patients recovered, while in others, where the violence of cholera was allowed to continue unchecked, at least one out of three died. In no instance was this better illustrated than in the case of Mrs. Christopher Jones, whose husband was convalescing from a mild attack. She remained waiting for me over five hours from the appearance of her first symptoms, and when I saw her, on my return from the cholera hospitals at Blackwell's Island, I found her in the algid stage of the disease. She had vomited and purged to such a degree that she presented the appearance of a desiccated Egyptian mummy. I had left her in the morning a beautiful, rosy-cheeked young woman, and cheerfully told her, after examining her husband, that it was her duty to give him some delicious fruit to hasten his convalescence. She walked over a mile to procure peaches for him, and in a few hours was herself stricken with the disease, and actually died without the care that had been given to her husband. When I saw her on my return, as she was dying, only a few hours after I had left her in apparent health, the contrast was so great as to place her beyond recognition. Her screams and pain had so demoralized her attendants that, in response to her entreaties for fresh air, her bed had been removed to the middle of the street, where she was, at my midnight visit on a very dark night, surrounded by a crowd of people holding candles and emblems of religion, repeating the prayers for the dying. I remained with her until after death, personally directed the necessary sanitary measures, had the father and children removed from her house, and the epidemic there was checked.

During the epidemic of cholera I daily prescribed for a very large number of those living in the infected district and elsewhere, who sought advice for the nausea and diarrhœa so often preceding the Asiatic cholera.

Some called once only, and others several times for a week. Not one of those who were thus treated presented any grave symptoms, or had severe cholera. And, on the other side, of all the cases of which I kept a record, not one of those who had the disease had ever had any of the preliminary symptoms treated.

My first six cases of obstetrics, after entering private practice, illustrate the effects of Asiatic cholera upon the woman with child.

My observations during the months of July, August, and September, 1866, of pregnant women, in a neighborhood where the epidemic prevailed, caused me to conclude that the intense fear of being exposed to the disease, without really having it, may produce a shock sufficient to either kill the fœtus *in utero* or to bring about a premature delivery. Also that an attack of Asiatic cholera, from its violence, may suddenly kill the unborn child, but that, if the mother recovers, she may go until the end of the ninth month of pregnancy, when she may safely be delivered of her macerated, dead child. Also that there are other women, of either the delicate or robust organization, who will carry a child until the end of term, notwithstanding the most fearful commotions. The histories of our wars and epidemics boldly bring this class into view.

They are the mothers of our Cæsars, Napoleons, and American Indian chieftains.

Illustrations:

I was called to attend Mrs. K., of West Fifty-second Street, July 10, 1866. She was an exceedingly timid woman. Cholera prevailed extensively in her neighborhood; she became very much alarmed; had an early miscarriage, followed by profuse hæmorrhage; she partially recovered, but ten years after was suffering from the effects upon her nervous system.

Mrs. L. Q., residing in West Fiftieth Street, sent for me to examine her, as she said that, in the absence of motion, she believed her child to be dead; that she had had an attack of cholera during the summer, when she was about seven months pregnant, and since then had felt no life. Mrs. Q. presented a peculiar haggard, anxious expression of countenance, plainly indicating her great fear. On careful examination, the general contour of the fœtus could be plainly distinguished, but not the slightest activity could be produced. Within twenty-four hours after my first examination, on August 4, 1866, I easily delivered her of a small fœtus, apparently of about seven months' growth. The child was perfect in form, but presented the appearance as though it had been in boiling water, whereby the outer skin could easily be removed, as the passage of the finger, even gently, over its back caused the skin to peel off as easily as wetted tissue-paper, leaving the child of a purplish-red, glazed appearance. I easily extracted the small placenta, which showed commencing fatty degeneration. The uterus contracted firmly. The secretion of milk occurred regularly; this was easily controlled, and the mother made a complete and rapid recovery.

My third case was that of Mrs. F. G., a multipara, residing in West Fiftieth Street. She lived in the cholera district, and had been very much alarmed, but never had the disease. On August 28, 1866, I delivered her of a fœtus that had been dead for at least ten days. She recovered.

Fourth case: Mrs. W., whom I delivered of a six-and-a-half-months' macerated fœtus that had been dead a long time.

Fifth case: Mrs. K., a delicate little woman, of great courage, residing near the cholera patients. She had previously had three miscarriages, and was very anxious to have a living child. On September 20, 1866, I delivered her of a fine child. Mother and child did well.

Sixth case: I delivered Mrs. D., September 28, 1866, of her first child, a boy, at full term. Mrs. D. lived in the midst of a cholera district, but had never been afraid of the disease; both she and her child did well.

None of the women, it will be seen, died after delivery, although some had had intense fear. As these include my first six cases of obstetrics in private practice, and nothing of importance referable to the epidemic of cholera subsequently recurred, a further citation of cases is unnecessary, as they followed the usual course.

Gout and Asiatic Cholera.—On the 14th August, 1866, I was requested to go immediately to see Mr. B., aged fifty-five years, residing in West Fiftieth Street, an Irish gentleman of means without any occupation, whom I had previously treated during several severe explosive attacks of gout of the great toe and knee joints. This gentleman had a similar attack of cholera to that of Dr. Howard, and the same treatment relieved him. The influence of Asiatic cholera in curing a patient with gout was in this instance, as I imagine it was in others, of no avail in preventing subsequent attacks, as, within nine months after having had cholera, Mr. B. was under my professional care for very severe inflammatory gout.

Several years ago I studied all the epidemics of scarlet fever occurring in New York since it was first recognized as a distinct disease, and was surprised to see the irregular rise and fall of the tidal waves of death. In examining the various conditions supposed to increase or control an epidemic, I found many incomprehensible facts.

There are still mysterious problems in regard to the origin of epidemics, causing some observers in a locality to attribute cholera to atmospheric causes, others to argue that it may become endemic anywhere in the torrid zone, and others, now including by far the larger proportion of the profession, that it is due to a special parasite or ferment, capable of always reproducing the disease if planted in a suitable soil.

Dr. Frank H. Hamilton's Sanitary Results at the Workhouse on Blackwell's Island.—After the epidemic had continued from the 28th of July to the 6th of August, during which period, of about eight hundred inmates, one hundred and twenty-three died, on August 10, 1866, Dr. Hamilton * addressed a letter to Dr. E. Harris, Registrar of the Board of Health, informing the department that he had fulfilled a promise made to the Board of Commissioners that he would drive out the cholera from the work-house in from three to five days, and that, on Monday, the pledge was redeemed.

Conditions of Life most conducive to an Attack of Cholera.—First comes great nervous exhaustion, when the vital forces are in a partially paralyzed state, and where the resistance to disease would be materially lessened. We have just this condition when we seek for the cause of ordinary cholera morbus, which so frequently appears in great violence after placing in the stomach articles of diet difficult to digest when the mental and physical forces are weakened, but which, during the robust states of the mind and body, produce no ill-effects.

In studying the histories of epidemics of Asiatic cholera, we soon perceive the fact of the great danger existing to those taking charge of and washing the soiled linen of patients; therefore, laundresses are particularly exposed, and statistics record the great mortality among those thus employed. In the spread of the contagion from place to place, nothing appears so potent as woolen garments, imperfectly dried, on which the bacilli are allowed to remain in a condition ready to assume active virulence whenever exposed to heat and moisture as they are unpacked.

Malignant epidemic cholera appears to attack all the races of mankind. The valuable reports of Dr. Ely McClellan, of the United States Army, amply confirm this opinion in regard to the negro race, and Dr. V. B. Hubbard, United States Army, also tells us that cholera prevailed to a considerable extent among the native Indian population, and that, in the Indian Territory, where he was on duty during the epidemic of 1867,† cholera occurred among the following tribes: Cherokees, Creeks, Caddos, Comanches, Seminoles, Wichitas, Delawares, and Shawnees, and that many of the Indians had no medical attendance, or treated each other with Indian remedies, which, so far as he could learn, consisted chiefly of oak-bark and other indigenous vegetable astringents. ‡

Liability of Physicians to Attacks of Cholera.—Physicians and clergymen in daily attendance upon cases of malignant Asiatic cholera rarely fall victims to the disease if they observe the rules of hygiene, sleep in wholesome rooms, and live temperate lives; and the popular mind often wonders at this exemption, attributing it to a charm or some mystic influence. Many a time have I been secretly asked by the superstitious friends of the victims of infectious diseases how the gift had been acquired. Dr. Frank H. Hamilton # informs us that, of the fourteen house physicians and surgeons employed in the several buildings—at the work-house, penitentiary, and lunatic asylum—some

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* Letter from Frank H. Hamilton, M. D., to E. Harris, M. D. Flint's "Practice of Medicine," third edition, p. 488.

† "Cholera Epidemic in the United States, 1867."

‡ Report from Fort Gibson, Cherokee Nation, pp. 57–59. Circular No. 1, War Department, Surgeon-General's Office, Washington, June 10, 1868.

"Theory and Practice of Medicine," A. Flint, M. D., p. 489.

of whom were in constant attendance upon the sick, not one suffered from the epidemic.

After becoming exhausted from almost constant attention to the malignant cases of cholera, I had an attack of the cholerine, but was soon well again. The danger I easily overcame by taking of the following mixture—℞ Tr. opii camph., tr. cardam. comp., tr. zingiberis, equal parts —a teaspoonful in hot sugar-water every hour until the symptoms were relieved. The remedy quickly relieved, and I did not lose a day off duty.

I had one physician under my care with cholera, Byron Howard, M. D., residing at 263 West Fifty-fourth street. I was sent for on the 14th of August, 1866, and found him with the painless rice-water diarrhœa and frequent vomitings, intense pain in the bowels, and cramps of the lower extremities. I kept him in a warm bed, and gave the general treatment. He convalesced rapidly. I disinfected and fumigated thoroughly, and not another case occurred in the house.

I may here be permitted to allude to the devotion of our army medical officers, as illustrated by the faithful services of Colonel McGill, U. S. Army. Dr. McGill had performed the most arduous duty with his command during the epidemic cholera. His wife took cholera at 8 A. M., and died about 10.30 P. M., July 17, 1867. On the 19th of July Dr. McGill took the disease, and on the following day, at 3.30 P. M., died.

Caution to Physicians against Rash Experiments.—Do not sacrifice a useful life unless there is a moderate guarantee that the benefit will sufficiently compensate others. Men have been known to drink the water containing the dejections of cholera patients; some have not been at all affected, while others have died in a few hours.

Others have made heroic *experiments by the injection of cholera-blood upon man and animals in search of the cause of cholera.* In the report* of the Cholera Commission at Marseilles, consisting of MM. Sicard, Taxier, Loucel, Livon, and Charcyre, the members offer, among other conclusions, the results of their demonstrations upon the rabbit, and state that the cholera is transmissible to the rabbit, as demonstrated by injection of the blood of a cholera patient at the algid period into the veins of the rabbit, causing the rabbit to die in twenty-four hours, with lesions entirely like those of cholera.

In the report of the Cholera Commission of 1878 in the United States there is an account of the death of "Dr. Obermeir, Virchow's assistant in the Berlin Hospital, which followed in consequence of his audacious boldness in the endeavor to detect the cause of cholera. He had many specimens of choleraic disease in his room, and finally injected cholera-blood hypodermically into his arm, and died in six hours, while endeavoring to examine his own blood microscopically."

Constant Attention of Physician and Nurse demanded.—Cholera being a disease of such rapid course, the importance of frequent visits by the physician must be apparent. For one well able to pay for the necessary means to save life, I would have four trained nurses to each patient, and place two on duty together, the daily service being divided into terms of six hours, each set of nurses doing duty for one half of each day and night, each couple always being ready for duty promptly on the hour. Some of the inexperienced will be horrified at the expense; but ample experience in this city has taught me never to leave anything undone. I have had four trained nurses thus work harmoniously together, and have found that they had just as much as they possibly could do. In one instance of acute mania, during an attack of facial erysipelas, with frequent attacks of heart syncope, kidney disease, general anasarca, and pulmonary œdema, seen with me by my friend Dr. Austin Flint, I feel confident that, with fewer than the four excellent graduates of our training school for nurses, who were so judiciously selected for me by Miss Adelaide S. Mabie, T. N., our patient would have died, whereas she recovered, and is now living in the enjoyment of good health.

We shall be met by opposition, but very seldom, perhaps, by men who, in early life, have had to struggle to secure a position, who would give a large sum to a charitable purpose, or expend money lavishly for mere pleasure, yet refuse to do their duty while the opportunity lasts; but, if death should occur, would subsequently go through life seeking in vain forgiveness for their sins of omission.

Directions to be strictly obeyed by Nurses to protect themselves from the Cholera Poison.—Never eat a particle of food or take any drink during the six hours you are on duty. The habit of some nurses of tasting all delicacies sent to the sick is as dangerous to themselves as it is disgusting to the invalid.

Duration of the Disease.—Dr. Buell,* in summing up the cases treated in one of the New York hospitals in 1854, remarks that, of 469, the average duration of the diarrhœa was three days and six hours.

Medication.—Dr. Hutchinson, at the New York Academy of Medicine, March 21, 1866, stated that he had acted his part in two epidemics—one, in 1849, in the Mississippi Valley, and the other near New York—and he had come to the conclusion that the preferable plan was to disturb the patient with as few medicines as possible.

Dr. J. T. Metcalfe,† in speaking of the prophylactic measures to be adopted, refers to the importance of quarantine and sanitary regulations, and, after the disease has merged into the algid state, to the necessity, if we must expect success, of the arrest of the painless diarrhœa.

Kidneys.—Inactivity of the kidneys and suppression of urine may follow the excessive vomiting, diarrhœa, or perspiration of the algid stage. In seeking the restoration of the suspended function of the kidneys, use the greatest caution. If death occurs, they will be found contracted and almost bloodless. To establish the restoration, I have found dry cupping over the loins to be beneficial; and, as a good diuretic, I have found nothing more gentle or efficient than the compound infusion of buchu, uva ursi, and juniper berries, largely diluted with warm water. Of course, the physician will see the propriety of not endeavoring to establish a flow of watery excretion from the kidneys so long as the liquid elements of the blood remain much below the normal standard.

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* "Medical Record," October 25, 1884.

* "Medical Record," 1866, p. 56, Lecture by A. Clark, M. D.

† Opening of the discussion by Dr. J. T. Metcalfe at the New York Academy of Medicine, February 21, 1866.

Sequelæ—Effects on the Morale.—A severe attack of Asiatic cholera often produces a change in the disposition and morale of an adult rarely recovered from. For an active, vigorous, and prosperous man or woman to be thus suddenly stricken down is like a severe shock to the nervous system. I have watched the subsequent lives of those who were formerly very prosperous and brave, and in different spheres of life noticed the entire change after attacks of cholera—the merchant will fail in business; the professional man become visionary, and seek new fields for usefulness; the ambitious mechanic depend upon his friends; and the laboring man become a chronic inebriate. I could give names and residences of illustrations in each of these classes.

The United States Government has done much to aid the profession in the study of epidemic Asiatic cholera. The valuable report, by the late lamented Brevet Lieutenant-Colonel J. J. Woodward, M. D., U. S. Army, on epidemic cholera in the army of the United States during the year 1867, and the history of the cholera epidemic of 1873 in the United States, including the report of the late Supervising Surgeon John M. Woodworth, M. D., U. S. M. H. S.; and reports prepared under the direction of the late Surgeon-General Joseph K. Barnes, M. D., Brigadier-General, U. S. Army, including "A History of the Cholera Epidemic of 1873 in the United States," by Ely McClellan, M. D., U. S. Army; "History of the Travels of Asiatic Cholera," by John C. Peters, M. D., of New York city; and the most complete bibliography on cholera ever prepared or published in any language, by Brevet Colonel John S. Billings, M. D., LL. D., U. S. Army, published by the War Department at Washington, 1875—are works of the greatest professional importance, and bear testimony to the abundant fruitful results following the various appropriations made by the United States Congress for the furtherance of the study of the science of medicine and the welfare of mankind.

Have the recent scientific investigations been of any practical advantage? Have we learned anything of service to guide us through epidemics that we did not know last year? The following synopsis of a recent scientific report confirms the advantage of an acid reaction of the stomach as the best mode of preventing an attack of cholera: Several years ago Dr. McClellan, U. S. Army, gave us many printed histories of the acid treatment. In the sixth report of Dr. Koch, of the German Cholera Commission, dated Calcutta, February 2, 1884,* he tells us that "another peculiarity of the cholera bacteria is that they die, upon drying, much more quickly than most others. Commonly all life is extinct after three hours' drying. It has also been noticed that their development only takes place well in substances having an alkaline reaction. A very small amount of free acid, which would have little or no effect on other bacteria, puts a marked check to their growth.

"In a healthy stomach they are destroyed, which is shown by the fact that neither in the stomach nor the intestines of animals which had been constantly fed on the cholera bacilli, and then killed, were any found. This last peculiarity, together with the impossibility of their withstanding drying, gives an explanation of the every-day observation, that infection so seldom occurs from constant intercourse with cholera patients. Evidently, that the bacilli may be in condition to pass the stomach, and bring about the cholera in the intestines, peculiar conditions must be present. Perhaps, when the digestion is imperfect, the bacilli might be able to pass the stomach; and the fact observed in all cholera epidemics and in India, that those suffering from indigestion are especially subject to cholera, may bear out this view. Perhaps a peculiar condition, analogous to the period of inoculation of other bacteria, would enable them to pass the stomach uninjured."

The danger to New York city of an epidemic of cholera within the next year is very great, if the strictest sanitary rules are not followed. New York has advantages possessed by very few large commercial cities. It has an abundant supply of exceedingly pure water, brought a distance of forty miles from a water-shed situated in one of the most beautiful parts of our State.

Microscopical Examination.—For at least ten consecutive years I regularly examined the sediment of our Croton after allowing a bathtubful to remain settling all night, during the periods of midsummer and autumn. After dry seasons, I found present all the vegetable and animal growths illustrated in our Board of Health reports by Dr. Chandler, and found that these could easily be destroyed by two ready methods and at comparatively no cost. The first is by thoroughly boiling the quantity required for drinking purposes, this to be placed in large clean bottles, or jugs, or glass demijohns, surrounded by ice until required for use. The second, which may be employed by the very poorest, who may not be able to keep an abundance of ice, at a cost of less than ten cents a month for a large family, is to put enough powdered alum to cover a silver dime-piece into a pitcher containing two quarts of water, and allow it to remain for one hour, when all dangerous animal and vegetable growths will have been found dead and settling to the bottom. It may be asked if the alum will not do harm. Experience and my personal observations at the alum springs of Europe, where I have seen strong alum-water drank daily, convince me that in much larger quantities it often acts most beneficially in catarrh of the stomach, and I have never known it to do the slightest harm.

Sewage.—No city has a better location for a perfect system of sewers than New York—situated on and covering the entire island of Manhattan, and surrounded by sea water, with currents ever-flowing, in or out, corresponding with the rising and falling of the daily tides. The island is long and narrow, with a high ridge running along the center for nearly its entire length—representing a ship with bottom up, the edges corresponding to the East River on one side, and the Hudson River on the other, with drains and sewers commencing near the highest point, at the center—at Broadway and Fifth Avenue—then taking divergent courses, down hill, to either side at the river.

New York has been taxed sufficiently for the building of the most serviceable sewers, and I believe all work of this character done for the last ten years, by our Board of Public Works, to have been much better than that of the preceding ten years.

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* Translated from the "Berliner klinische Wochenschrift," March 31, 1884, for "Science."

The danger of New York in connection with the water supply and sewage systems, in my opinion, is in those houses where the water-closets and sinks have, during a greater part of the day, no running water. Occupants of such dwellings invariably, in a year or two, present symptoms of general septic poisoning, which not only produces bodily ills, but at times so much affects the mind that I have known it to produce failure in profession or business, general loss of ambition, the grossest immorality from a worried mind in a sick body; and I have also personally observed death, and, still worse, several cases of incurable insanity—all traceable to preventable causes in insanitary homes. Even now the homes of some of our rich New York residents can properly be called only sepulchres, thousands of dollars having been spent in them upon all means for excluding sunshine and fresh air. They are loaded with draperies, bric-a-brac, ancient paintings, statuary, etc., but the plumbing is imperfect, the furnace-heated cellar-air ascends heavily charged with carbonic-acid gas, and the ever-weary, languid, unhealthy victims persist in blindly following supposed fashion. Woe will surely follow in such households if Death, in the guise of Asiatic cholera, once gains an entrance.

Even if cholera should appear in America, New York offers advantages as a place of residence over most country villages and towns, in consequence of its vigilant Health Department, its sewers, and water supply; and a review of the results of previous epidemics strongly confirms this opinion. Only recently, during the summer, after reading an article concerning the filthy state of New York streets, I drove through several of those complained of, and went from Fifth Avenue to the river. I must confess that I felt proud of living in such a clean and beautiful city, and can not too strongly express my detestation for those who, in their frequent visits to Europe, go only to the best quarters, and return to the city, where they are blessed by so many luxuries and comforts, only to vilify it, and say we should copy from the Old World. At different seasons of the year I have visited London, Paris, Turin, Rome, Naples, Florence, Strassburg, Venice, Amsterdam, Antwerp, Cologne, Geneva; and on our own continent I have visited all the small and large cities from the extreme north in the Dominion of Canada to the southern part of Florida. I did not confine myself to visiting the palaces of the princes and the rich only, but I also went into the by-ways and alleys, often in company of the best guides and officers of police, and, as a result, I must candidly assert that, as a place of residence for the rich and the poor, few places on earth offer the sanitary advantages of New York. And as a safe haven to reside if cholera came to this country, these thoroughly equipped sanitary homes of New York offer the safest place to either keep exempt from cholera, or, if it is contracted, to recover from the disease.

The first week in October, 1884, I took a carriage drive over sixty-four miles of New York State and Connecticut, and in August through forty-eight miles of the State of New Jersey, passing through some of its most beautiful villages. I observed the men, women, and children, and for over the hundredth time was convinced that the happiest and healthiest and most useful people, as well as the most unfortunate and distressing poor, live in the cities, the contrast becoming greater with the age and density of the population.

As a place of residence during an epidemic of Asiatic cholera, therefore, New York city offers great advantages over the usual country resorts our citizens seek as places of health and recreation. With an efficient Health Department, good sewers, an abundance of pure Croton water, clean streets, and our usual prevailing winds, New York, in my opinion, is a place of safety. My personal experience during the summer of 1866 amply confirms this conclusion, as in not a single instance did I see more than one case of cholera in any house where they had perfect plumbing, pure air, good sewer connections, and an abundance of water. I have remained on professional duty in New York at least fifteen years during the entire heated term of our summer, and, should an epidemic of Asiatic cholera appear in America next year, I would consider my own city home the best place for the protection of my wife and six children.

Conclusions.—Asiatic cholera only appears in America as an epidemic, which in two or three years exhausts itself. Its cause is dependent upon a peculiar bacillus or ferment, which, when planted in a suitable soil, causes malignant cholera. The experience of a very large proportion of the profession, years ago, empirically demonstrated that a decided acid reaction of the secretions of the stomach and bowels prevented an attack.

Asiatic cholera is a self-limited disease, attacking all the races of mankind and at all ages; it is of very short incubation and duration; it may prove fatal as rapidly as in three hours from the time of apparent health; it is amenable to treatment and good nursing. In the treatment, the first object is to place the patient in the recumbent position, maintain the temperature of the body by the application of artificial external heat—counter-irritants, such as mustard and camphor over the abdomen, are good; and to supply the blood with water, lost by excessive vomiting and purging, allow the patient to swallow ice in small pieces, or to slowly sip pure water; for nourishment, give only liquid food, such as clam-juice, meat-broth thickened with rice or barley, brandy or whisky, largely diluted tea, coffee, or coca infusion, raw eggs, and cream diluted with water. Avoid acute indigestion by overloading the stomach with food hard to assimilate. As medicine to prevent the disease, in the anæmic, give tr. ferri chlor., ten drops in a wineglassful of water three times a day; in the robust and plethoric, ten drops of the aromatic sulphuric acid in a wineglassful of water three times a day. Medicinal treatment for the disease, diffusible carminatives and anodynes, such as: ℞ morphin., gr. j; tr. cardam. comp., ℥ j; tr. capsici, ʒ iij; sp. camphor., ʒ j. M. For an adult, a teaspoonful in two ounces of water every fifteen minutes, until the symptoms are rendered tolerable; then give guardedly until the effects of the anodyne can be noticed in the diminished size of the pupil. This treatment may be required for at least three days, after which, if the disease appears to be controlled, the treatment for an ordinary convalescence may be followed. The treatment for the young and infants would, of course, be modified to correspond with the known effects of the anodynes at these more susceptible ages. As relapses are apt to occur, it is well to keep the patients under observation for at least ten days, if the attack has been a severe one, and to avoid all causes of mental depression, as a shock, such as hearing of the death of a dear one, may so depress the vital forces that death may follow. For the painful cramps of the muscles of the extremities, nothing relieves so quickly as circular compression with the hands of the attendants; a cramp of the calf of the leg may frequently, in a few seconds, be overcome by moderately firm bandaging, the bandage to be removed the instant the cramp ceases.

Remove, as quickly as possible, all soiled linen, and purify by either drying by artificial heat or by immersing them in a solution of alum, one part of alum to fifty of water, allowing them to remain for an hour after thorough soaking. The advantage of alum over other substances to destroy germs I have found to be: That it quickly destroys all deleterious vegetable or parasitic germs, it is very soluble in water, does not stain, and rarely affects any of the ordinary dyes.

Quarantine, if absolutely perfect, will surely prevent cholera in America. Cholera historians tell us that the disease is indigenous in Central Asia. A large proportion of those affected with cholera will recover.

The diseases following cholera are caused by injury done to the organs during the transit of the bacilli, and not to any retention of the special poison itself.

Cholera is a disease beyond the reach of the local practitioner to prevent or control; only those vested with governmental authority have the power to enforce the necessary quarantine and means for extermination. It is, therefore, a disease to be battled with by the public authorities, and, in case of its return, I feel assured that all physicians who have personally struggled with Asiatic cholera in the homes of the afflicted will gladly, during any future epidemic, quickly do their duty.

If cholera comes to this country, do not get panic-stricken, but quietly continue in the even tenor of your lives, and the great probabilities are that, even if you do get it, recovery will quickly follow. The modern science of the physician has robbed the disease of most of its former terrors.

DOES QUININE ABORT PNEUMONIA?*

By L. EMMETT HOLT, A.M., M.D., New York,
PHYSICIAN TO THE NORTHWESTERN DISPENSARY; INSTRUCTOR IN THE NEW YORK POLYCLINIC.

GREAT advances in our positive knowledge have been made since we began to study the natural course of disease uninfluenced by drugs. Again and again have we found that sudden and unexpected changes in the symptoms for the better may come from natural causes, when, had we accidentally administered some favorite drug at the time, it would have been well-nigh impossible not to believe that these events stood in the relation of cause and effect.

The skepticism regarding the abortion of acute diseases, particularly those of a zymotic character, is constantly increasing. It is to a rank among diseases of this class that lobar pneumonia seems rapidly advancing within the past few years. The discovery in the exudate of a peculiar micrococcus, first fully described by Friedländer, and since confirmed by Maguire and others, will go far to settle this vexed question.

Probably no disease, however, has afforded such a scope for the application of abortive measures as lobar pneumonia. Venesection, antimony, veratrum viride, aconite, calomel, quinine, and many other remedies have, each in its turn, had their advocates, their popularity, and their decline. Most of them are obsolete at the present time. Some are still strongly advocated.

The use of quinine in this connection appears to be a practice distinctly American, both in its origin and in its general application. English and continental writers either do not mention it at all, or merely allude to the esteem in which it is held here. The prevalence of malarial fever here has led to the use of quinine for nearly every conceivable disease, often with good results, often with negative results; sometimes, and not infrequently, too, positive harm has been done.

Two well-known American writers on pneumonia still pronounce quite strongly in favor of quinine as an abortive remedy in that disease. One says it can do no harm, and may favorably modify the course of the disease when it fails to abort it. Another writer states that a full dose of quinine given at the outset often aborts pneumonia. His favorite method of administration, he tells us, is to combine it with half a grain of morphine, to give two drops of the tincture of aconite every two hours, to apply a mustard poultice to the chest, and to administer a cathartic. With such a combination, why he should believe the quinine to be the efficient agent he does not state.

While I do not wish to be understood as denying the possibility that lobar pneumonia may be cut short by quinine, I still believe that a critical examination into those exceptional cases where this result seems to be achieved would reveal the existence of some other factor in the problem.

I wish to call especial attention to a class of cases which in many respects closely resemble pneumonia, and occur under circumstances where one might easily be led to believe that disease had been aborted by quinine. I refer to the pulmonary symptoms which occur with malarial fever.

Two years ago, while studying somewhat minutely all the cases of malarial fever in children which came to the dispensary, I met with a number of patients whose history of a remittent or intermittent febrile movement, beginning quite abruptly and passing off with sweating, left very little room for doubt of the fact that they were suffering from malarial poisoning. My attention was called to the chest by the very rapid breathing. This was frequently sixty or seventy a minute, and in two or three cases it reached one hundred. Cough, although present, was not regarded as very significant, as it is so common in malarial cases.

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* Read before the Medical Society of the State of New York, February 3, 1885.

On examining the lungs of these patients, physical signs were found which were quite uniform, and which at first puzzled me very much. In several cases there was an appreciable amount of dullness, although, as a rule, the signs were chiefly on auscultation. The breathing was very high-pitched, usually broncho-vesicular in quality, but several times it was pure bronchial breathing. The voice-sounds were exaggerated. Sometimes no râles whatever were heard, at others fine mucous, and occasionally subcrepitant, râles were present. There was no part of the chest which seemed to be affected by special preference. Sometimes both apices were involved, sometimes only one. The right middle and the right lower lobe have been affected when the rest of the chest was normal, or nearly so. Once or twice the axillary region of one side was found to be the principal or exclusive seat.

In the course of several months, at the time referred to, seven such cases were seen, malarial fever being especially prevalent at that season. I have seen four cases since that time.

In those which came first under observation, at the first examination a diagnosis of pneumonia was made without hesitation. When, the following day, these patients were found running about the house, with a normal or nearly normal temperature and respiration, I must confess to some surprise, which was not materially lessened when, on an examination of the chest, it was found that all the signs of the day before had vanished completely, or had dwindled to those of a slight bronchial catarrh.

It seemed clear that some other explanation must be sought than pneumonia, or malarial disease complicated by pneumonia. Sometimes the pulmonary symptoms and signs returned with the next exacerbation of fever. About such there could be very little doubt regarding the existence of an intense pulmonary engorgement depending upon the malarial poison. This was finally adopted as the most plausible theory by which to explain all the cases.

Had I been seeking to establish the value of quinine in aborting pneumonia, some of these cases might, without a very great bias of opinion, have been so construed. But I was skeptical regarding this fact, and studied these cases more critically. Some of the patients were given no quinine. The pulmonary symptoms then diminished very much as the fever remitted, but returned as the fever rose again. Where only small doses of quinine were administered, the symptoms were greatly modified during the next exacerbation. Where full doses were given, the disease was promptly and permanently controlled.

All authors agree that any abortive measures in pneumonia, to be effective, must be used at the very outset—within the first twelve hours after the onset at least.

I think there was only one of these patients who was seen on the day of his attack. The majority were seen on the second day, some not until the third. A distinct history of a remission of symptoms was almost invariably given, these becoming more and more severe with each succeeding exacerbation of fever.

In viewing these cases collectively, several points of peculiarity are brought out, by considering which we may, I think, avoid mistaking them for true pneumonia.

In the first place, the temperature is usually higher than we expect to see on the first or second day of pneumonia. In several of these cases it was 105° or 105.5°, and in one or two over 106°.

Another point, and a more important one, is the want of correspondence between the high temperature, the rapid breathing, and the physical signs, on the one hand, and the general appearance of the patient on the other. There is no other disease, I think, in which a patient can have so high a temperature and show the effect of it, in his face and general condition, so little as in malarial fever. I have been saved from pronouncing an unqualified diagnosis of pneumonia in several of these cases merely from the fact that the patients did not seem sick enough to have pneumonia with that temperature.

I think we all come to recognize this amount of general disturbance as a valuable means of diagnosis in many diseases, without being able accurately to define it.

A third point is the presence of splenic enlargement. It is true that this might be mistaken for consolidated lung, but, if the possible error is borne in mind, it will not often be made. As these malarial cases are usually very acute ones, and as it is only during the paroxysm of fever that the diagnosis is likely to be difficult, we may expect to find a marked enlargement of the spleen. I have rarely found it wanting.

Notwithstanding all, there are some cases in which a positive diagnosis from a single examination of a patient is impossible.

If such a case is closely watched for twenty-four hours without active treatment of any sort, it becomes very apparent that it is not pneumonia when we find that the temperature shows a marked fall, usually of four or five degrees, with a corresponding remission in all the symptoms, and changes in the physical signs, as described.

A form of pernicious intermittent is mentioned in which the poison produces an intense engorgement of the lungs with the congestion of the spleen and other organs. Intense dyspnœa and hæmoptysis are usually present.

None of my cases were severe enough to merit the term pernicious. The patients all recovered. Yet I do not see why the same explanation may not hold in regard to them. The literature of malarial disease, so far as I have been able to study it, has but little to say regarding pulmonary congestions, except in the pernicious variety, either in children or in adults. I do not think these cases are very rare, even in the forms of malarial fever which we meet with in New York.

As stated at the beginning, my own observations on this subject have been made chiefly on children. I think these congestions are more common in early life than in later years.

The question naturally arises, Supposing these cases had been allowed to go on untreated, would they finally have resulted in the development of a true pneumonia?

This is, of course, an exceedingly difficult point to determine. So far as the condition of the lung is concerned, we know that it must be very nearly the same as in the first stage of pneumonia. On theoretical grounds it might seem very easy for it to pass on into the other stages. However, the facts show that this is not likely to occur.

Those cases which had been allowed to go on two or three days without treatment yielded almost as promptly to antiperiodic remedies as those seen earlier.

In answering the question whether quinine aborts pneumonia, the source of error above alluded to must be borne in mind. It is believed that many of these cases can be explained upon this ground.

23 Park Avenue.

Book Notices.

Pyuria, or Pus in the Urine, and its Treatment. Comprising the Diagnosis and Treatment of Acute and Chronic Urethritis, Prostatitis, Cystitis, and Pyelitis, with especial reference to their local treatment. By Dr. Robert Ultzmann, Professor of Genito-Urinary Diseases in the Vienna Poliklinik. Translated, by permission, by Dr. Walter B. Platt, F. R. C. S. (Eng.), Demonstrator of Surgery in the University of Maryland, Visiting Surgeon to Bayview Hospital, Baltimore. New York: D. Appleton & Co., 1884. Pp. 98. [Price, $1.]

Dr. Ultzmann's little brochure is so familiar to most readers of German that it needs no extended criticism. No one will dispute the translator's apology for rendering the work into our own tongue. The style presents that admirable clearness and purity which distinguish the popular Vienna lecturer, and we may always be sure that he leaves no subject unintelligible. The book consists of five chapters, preceded by a short introductory section upon the physical and chemical character of pus. Chapter I treats of urethritis; Chapter II of catarrh of the neck of the bladder; the three succeeding chapters discuss, respectively, cystitis, pyelitis, and pyelo-nephritis, and, lastly, the treatment of pyuria.

About one third of the volume is devoted to therapeutics, the author dilating upon his peculiar method of local treatment, especially the so-called "deep injections."

The translator's work is, in the main, satisfactory, although there are several careless errors in spelling (even upon the title-page), which indicate hasty proof-reading. In more than one instance the German construction of sentences is followed too closely to suit an English ear. The book is neatly bound and printed on good paper, and the illustrations, ten in number, are well executed. A short index would add to the value of the work.

BOOKS AND PAMPHLETS RECEIVED.

The Science and Art of Surgery. A Treatise on Surgical Injuries, Diseases, and Operations. By John Eric Erichsen, F. R. S., LL. D., F. R. C. S., etc. Eighth Edition, revised and edited by Marcus Beck, M. S. and M. B. Lond., F. R. C. S., etc. With nine hundred and eighty-four engravings on wood. Vol. II. Philadelphia: Lea Brothers & Co., 1885. Pp. xxviii–33 to 1205, inclusive.

A Manual of Human Physiology, including Histology and Microscopical Anatomy; with special reference to the requirements of Practical Medicine. By Dr. L. Landois, Professor of Physiology and Director of the Physiological Institute, University of Greifswald. Translated from the fourth German Edition, with additions, by William Stirling, M. D., Sc. D., Regius Professor of the Institutes of Medicine, or Physiology, in the University of Aberdeen. With 176 Illustrations. Vol. I. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xxxi–514. [Price, $4.50.]

Insanity and Allied Neuroses: Practical and Clinical. By George H. Savage, M. D., M. R. C. P., Physician and Superintendent of Bethlem Royal Hospital, etc. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. viii–544.

The Student's Guide to Clinical Medicine and Case-taking. By Francis Warner, M. D. Lond., F. R. C. P., Assistant Physician, Lecturer on Botany, and late Medical Registrar to the London Hospital, etc. Second Edition. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xvi–211. [Price, $1.75.]

A Compend of Surgery. For Students and Physicians. By Orville Horwitz, B. S., M. D., Resident Physician at the Pennsylvania Hospital, etc. Second Edition, revised and enlarged, with Sixty-two Illustrations. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. 9 to 156, inclusive–vii.

Biennial Message of Gov. Jacob B. Jackson to the Legislature of West Virginia, Session of 1885.

The Diagnosis and Treatment of Chronic Nasal Catarrh. Three Clinical Lectures, delivered at the College of Physicians and Surgeons, New York, by George Morewood Lefferts, M. D., etc. [Reprint from the "Medical News" and from "American Clinical Lectures."] St. Louis: Lambert & Co. Pp. 49.

L'Epatite Suppurativa. Di G. B. Ughetti, Professore, etc. [Reprint from the "Rivista Clinica."]

On the Necessity of Providing for the Better Education of Children with Defective Hearing in the Public Schools. By Samuel Sexton, M. D., etc. [Reprint from the "Medical Record."]

Address in Medicine, delivered before the Medical Society of the State of Pennsylvania, 1884. By W. H. Daly, M. D., Pittsburgh, etc.

Extensive Burn, involving the Cavity of the Knee Joint. By W. H. Daly, M. D., Pittsburgh, etc. [Reprint from the "British Medical Journal."]

Denison's Seasonal Climatic Map of the United States. Graphically illustrating combined Humidity Statistics with Isotherms, Wind Statistics, and Seasonal Tables. Compiled from Data of the Signal Service Bureau by Charles Denison, A. M., M. D., etc., Denver, Colorado. Chicago: Rand & McNally.

Transactions of the College of Physicians of Philadelphia. Third Series, Volume the Seventh.

Cerebral Localization in Relation to Insanity, with Cases. By J. M. Carnochan, M. D., etc. [Reprint from the "Medico-Legal Journal."]

A Code of Rules for the Prevention of Infectious and Contagious Diseases in Schools. Being a Series of Resolutions passed by the Medical Officers of Schools Association, January 7, 1885. London: J. & A. Churchill, 1885. [Price, 1*s*.]

A Case of Unilateral Spasm of the Tongue. By Edmund C. Wendt, M. D., New York. [Reprint from the "American Journal of the Medical Sciences."]

Transactions of the American Dermatological Association, 1884. Official Report, by W. T. Alexander, M. D.

Cases of Arsenical Dermatitis. By James C. White M. D., etc. [Reprint from the "Boston Medical and Surgical Journal."]

Psoriasis—Verruca—Epithelioma; a Sequence. By James C. White, M. D., etc. [Reprint from the "American Journal of the Medical Sciences."]

Seventeenth Annual Report of the New York Orthopædic Dispensary and Hospital.

Martin's Directory of the Druggists of the United States and Canada, 1885. [Price, $2.50.]

THE
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NEW YORK, SATURDAY, FEBRUARY 21, 1885.

THE REPORT OF THE SURGEON-GENERAL OF THE MARINE-HOSPITAL SERVICE.

Surgeon-General Hamilton's report for the year 1884, together with the statistics appended to it, forms an attractive volume. In view of the responsibility that still rests on Dr. Hamilton's bureau as our only national safeguard against the introduction of cholera and other pestilential diseases, Congress having thus far failed to provide for any other comprehensive system of sanitary administration, the state of the service is of the greatest interest to every inhabitant of the country. Such being the case, we are glad to be able to say that our inference from reading the report is to the effect that the bureau is prepared to do all that could reasonably be expected from an organization already charged with other onerous work, and having at its disposal but a small appropriation with which to perform the task.

In the matter of quarantine—using the term in the wide sense given to it in the admirable remarks addressed by Dr. Van der Poel to the Medical Society of the State of New York early in this month—the utmost importance must be attached to the system of sanitary inspection of emigrants from Europe and their effects by our agents at the ports of embarkation. It is with pardonable pride that Dr. Hamilton alludes to the fact that this measure originated with his predecessor, the late Surgeon-General Woodworth. It is to be hoped that too great a reduction has not been made in the number of ports at which such agents are now maintained, and that there will be no failure to increase the number before the cholera starts on its voyage across the Atlantic. With quarantine in its narrow sense, that of an indiscriminate and irritating obstruction of travel and transportation, the bureau seems to have no sympathy. That it adheres to the position it took some months ago in the matter of the disinfection of rags before their shipment to this country does not appear to us to run counter to this statement.

The volume contains much that is of interest relating to the ordinary work of the bureau, the care of sick and injured seamen of the merchant service, and concludes with a number of carefully compiled statistical tables and a few clinical histories. It appears that the service is in danger of finding itself without a hospital at the port of New York in the course of the current year, as the lease of the property now occupied for that purpose on Staten Island is about to expire, and Congress has made no provision to meet the case. This omission seems to have been due to some extent to the puerile objections entertained by some of the citizens living in the neighborhood of the property that it has been proposed to purchase, to the effect that a hospital is not a desirable institution for the locality. "In reply to this objection," says the report, "it is only necessary to say that the hospital must be *somewhere;* that a similar feeling on the part of the citizens of New York would drive out of that city some of the noblest hospitals on the continent; and that contagious diseases are not received into general hospitals, but are treated at special quarantines or other special hospitals. A marine hospital is not a pest-house."

BRILLIANT RECORDS IN ABDOMINAL SURGERY.

The "British Medical Journal" for January 31st is in many respects a notable number, since it contains no fewer than four articles bearing upon the subject of abdominal surgery, three of which present the statistics of prominent ovariotomists.

Dr. Keith's report on thirteen cases of supra-vaginal hysterectomy, with only one death, will be read with deep interest, not so much because records of success are always attractive, but because the reader will cherish the faint hope that he may be able to discover its secret. But this secret still eludes us; Dr. Keith himself seems rather at a loss to account for it. He continues to regard the spray as a "useless ceremony," and believes that "few (among whom Mr. Thornton is excepted) are careful enough" about the details of operations. The word antisepsis with him is simply a synonym for cleanliness, so that it is difficult to see why he clings to the former word. "We must look for greater success in hysterectomy," he writes, "in the developing of the technical methods of operating."

Dr. Keith is not very clear as to his manner of treating the pedicle after hysterectomy, but he appears to differ with the Germans, as a rule, in favoring the intra-peritoneal method. The perfect frankness and bluntness which characterize the great Edinburgh surgeon's statements must carry conviction to the hearts of even his opponents, while his statistics are more convincing than any arguments.

Dr. Savage reports in the same journal one hundred and four cases of abdominal section during a single year, with nine deaths. His deductions are important. He believes in operating early, and, moreover, he uses drainage-tubes more frequently than formerly. After removal of the uterus he advises their employment in all cases where there is likely to be oozing. The tubes generally employed are too short, he thinks; he has them made as long as eight inches. Dr. Savage's conclusions with regard to pyosalpinx are interesting. He believes that the condition can be recognized before operation, that it is generally due to gonorrhœa, and that laparotomy furnishes the only certain means of relief. The closing sentences, upon the *toilette du péritoine*, are highly significant. "I am never afraid of my sponges," he says; "I attend to them myself, and so know the life-history, as it were, of every one of them from the moment they leave the shop where I purchase them until they do service in an abdominal cavity."

The statistics of Mr. Tait's one thousand operations have already appeared elsewhere. They are of great interest, especially those which relate to the removal of the uterine appendages. His results in hysterectomy are rather significant when compared with those in his other cases of laparotomy, since he lost nineteen out of fifty-four patients. In every instance in which the pedicle was treated by the intra-peritoneal method he records death from oozing. Mr. Tait justly regards this operation as the most serious one in peritoneal surgery, and he believes that the ideal method is yet to be discovered.

In an able editorial in the same number the evidence presented by Mr. Tait is summed up, and the verdict is given that "the mortality must be far lower than four per cent. before surgery can encourage oöphorectomy for mere theoretical purposes, nor is an operation always justifiable because the patient recovers from it."

A study of such records can not fail to be instructive to American operators. They will certainly be regarded by many as a strong argument in favor of the uselessness of the spray.

REMOVAL OF THE CANCEROUS UTERUS.

For a subject which has been discussed as much as this, the question of removal of the uterus for malignant disease is still in a very unsettled state. We turn to recent German literature, and it fairly teems with brilliant statistics and loud praise of the operation. Occasionally some conservative surgeon raises a dissenting voice, but he is speedily "cried down" by more enthusiastic or more successful operators. Whatever may be the real judgment of the American profession with regard to this extreme measure, we can not but believe that they will sympathize entirely with the sentiments expressed at a recent meeting of the Obstetrical Society of London. The gentlemen who joined in the discussion were entirely at harmony in the opinion that in most cases complete removal of the uterus for cancer of the cervix was unjustifiable, supra-vaginal amputation being the operation indicated; and that even in malignant disease involving the body of the organ the radical procedure was of doubtful propriety, since one could never be sure that the affection was limited to the uterus. Stress was laid upon the latter objection by Mr. Alban Doran, who demonstrated anatomically the exceeding richness of the broad ligaments in lymphatic plexuses, all of which communicate with the uterus and vagina, so that it is almost impossible for the disease not to spread into the neighboring tissues.

Dr. Playfair and Mr. Thornton were equally positive in their opinions that in removing the cancerous uterus the surgeon could seldom entertain the hope that he had eradicated the trouble. We regard this united and decided expression of disapproval on the part of some of the most thoughtful and experienced English specialists as more significant than any reports of isolated cases.

MINOR PARAGRAPHS.

THE DISCOVERY OF THE MIGRATION OF THE WHITE BLOOD CORPUSCLES.

At a recent meeting of the French "Académie des sciences" the statement was made that Dutrochet published, in 1824, an accurate description of the migration of the white corpuscles which agrees in all the essential points with the results of Cohnheim's subsequent observations. The reader will hardly agree, however, with the gentleman who maintained that "all the honor should belong to Dutrochet and not to Cohnheim."

The "Deutsche Medizinal-Zeitung," commenting upon this matter, asks very pertinently whether the lenses then in use were of such power as to render the necessary observations possible.

THE HOSPITAL SATURDAY AND SUNDAY COLLECTION.

The figures that have now been made public by the association charged with the collection and apportionment of the fund show that the collection for the year 1884 fell somewhat short of that for the preceding year. This fact is attributed in some degree, and no doubt with justice, to the depressed state of business at the close of the year; but it is difficult to see why the financial situation should not have operated to diminish the receipts through the auxiliary trade channels as well as those from the church organizations; the fact is, however, that the trades gave an increased amount, one that nearly made up for the falling off on the part of the churches. Besides the depression in business, the report alludes to the circumstance that the weather was very unfavorable on the day that the chief collection was taken up from the churches; perhaps this may account for the fact that only the Jews increased their contribution over that of the year before.

THE SUPPLEMENTARY REPORT OF THE ENGLISH CHOLERA COMMISSION.

Dr. Klein has submitted to the English Government some additional information with regard to the work of the Commission. His report deals mostly with the results of examinations of tank-water which was collected in a limited cholera district in Calcutta. He asserts that he visited the tank in which Koch found the comma bacilli, on the presence of which in the water the German investigator largely based his theory of the parasitic origin of the disease. Dr. Klein admits that he found undoubted bacilli in the tank, but he adds this damaging statement: "There has occurred during the whole of November, 1884, one single case of cholera, although about two hundred families use the water." Facts such as these (and others are promised) will compel the Berlin school to look to its laurels.

A WORD TO OUR CONTEMPORARIES.

On one or two occasions we have intimated our appreciation of the compliment that some of our contemporaries have done us from time to time in adopting our articles as their own. That appreciation is unchanged, but we have no craving for more compliments of the sort; indeed, they have become too numerous to be endured. The last number of an English journal contains several articles taken from our columns, all without the slightest credit; there is a weekly journal published in this country that almost regularly appropriates a number of our items; and very recently one of the most pretentious of our contemporaries gave its readers as original matter a paragraph which, save for a slight change in the opening sentence, appeared in our issue of June 14, 1884. Enough of this sort of thing has happened, and we give notice that we shall discontinue the exchange with those journals that persist in appropriating our contents.

NEWS ITEMS, ETC.

The University of Buffalo.—The Alumni Association of the Medical Department of the University of Buffalo will hold its annual meeting on commencement day, Tuesday, the 24th inst. The programme includes an address of welcome, by Professor M. D. Mann; the president's annual address, by Dr. E.

C. W. O'Brien; a paper on "The Relation of the Faulty Education of Girls to the Diseases of Women," by Dr. W. W. Potter; a paper on "Monomania," by Dr. W. D. Granger; and papers on sanitary matters, by Dr. Van Pelt, of Detroit, and Mr. George E. Mann, of Buffalo. These exercises will be succeeded by the annual banquet and reunion.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 17, 1885:

DISEASES.	Week ending Feb. 10.		Week ending Feb. 17.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever	5	3	11	3
Scarlet Fever	89	19	67	11
Cerebro-spinal meningitis	7	6	5	5
Measles	107	33	135	24
Diphtheria	47	24	75	36

The New York State Medical Association.—The First District Branch will hold its first special meeting at the Clarendon Hotel, in Brooklyn, on Wednesday, the 25th inst., at 2 P. M. The following named papers will be read: "Note on Contracture of the Bladder consequent on Cystitis," by Dr. J. W. S. Gouley; "Puerperal Eclampsia," by Dr. N. C. Husted; "Oleate of Cocaine," by Dr. E. R. Squibb; and "Disinfection," by Dr. R. M. Wyckoff. A collation will be served at 6 o'clock.

A Dispensary for Nervous Diseases has been established in Brooklyn, with Dr. Landon Carter Gray and Dr. Lewis D. Mason for attending physicians; Dr. I. H. Platt, Dr. G. R. Butler, Dr. J. McManns, and Dr. F. A. Jewett, for associate attending physicians; and a pathologist and a consulting staff of eight gentlemen.

Koch's Laboratory.—The difficulty of obtaining entrance as a student in Koch's laboratory is so great that, as was stated in our last issue, few foreigners succeed in securing the permission of the German Government. Dr. F. S. Billings, whose appointment as pathologist to the New York Polyclinic is mentioned in another column, received, on Tuesday last, special permission from that government to enter the laboratory as a private student.

"Gaillard's Medical Journal."—We learn that this journal is to be edited by Dr. P. Brynberg Porter, with Dr. T. Gaillard Thomas and Dr. George T. Harrison, of New York, Dr. Hunter McGuire, of Richmond, and Dr. C. H. Mastin, of Mobile, as collaborators. Dr. Porter has had considerable experience in medical journalism, and may be counted upon to do good work in his new undertaking.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 8, 1885, to February 14, 1885:*

Town, F. L., Major and Surgeon. Granted leave of absence for twenty days. S. O. 14, Department of Texas, February 4, 1885.

Robinson, S. Q., Captain and Assistant Surgeon. From Portland, Oregon, to his proper station, Fort Spokane, Washington Territory. S. O. 20, Department of the Columbia, February 2, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the week ending February 14, 1885.*

Guitéras, John, Passed Assistant Surgeon. When relieved at Key West, Fla., to proceed to Charleston, S. C., and assume charge. February 11, 1885.

Kalloch, P. C., Assistant Surgeon. To report to Passed Assistant Surgeon Peckham at Wilmington, N. C., for examination for promotion. February 10, 1885.

Glennan, A. H., Assistant Surgeon. Relieved from duty at New Orleans, La., to proceed to Key West, Fla., and assume charge. February 11, 1885.

Society Meetings for the Coming Week:

Monday, *February 23d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *February 24th:* New York Surgical Society; New York Dermatological Society (private); Buffalo Obstetrical Society; Boston Society of Medical Sciences (private).

Wednesday, *February 25th:* New York Pathological Society; American Microscopical Society of the City of New York; Auburn, N. Y., City Medical Association; Cumberland County, Me., Medical Society (Portland); Berkshire District, Mass., Medical Society (Pittsfield); New York State Medical Association (Fifth District Branch—Brooklyn—special).

Thursday, *February 26th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; Roxbury, Mass., Society for Medical Improvement (private); New York Orthopædic Society.

Friday, *February 27th:* New York Clinical Society (private); Yorkville Medical Association (private); New York Society of German Physicians.

Saturday, *February 28th:* New York Medical and Surgical Society (private).

The Death of Dr. Louis Elsberg, Professor of Laryngology and Rhinology in the New York Polyclinic, Professor of Laryngology in the Medical Department of Dartmouth College, and physician to Charity Hospital, took place rather suddenly on Thursday morning, the 19th inst. His health had been seriously undermined for a long time. A further notice of the deceased will be given in a succeeding issue.

The Death of Dr. William Braithwaite, of Leeds, England, the founder and senior editor of the "Retrospect of Medicine," is announced as having taking place on the 31st of January, in the seventy-eighth year of his age.

OBITUARY NOTES.

James Gray Thomas, M. D., was born near Bloomfield, Kentucky, June 24, 1835. He began his medical studies in Louisville, in the school in which the late Samuel D. Gross, M. D., LL. D., then taught. He graduated in medicine from the University of the City of New York in 1856, and began his life-work in Bloomfield, the place of his birth and his early home. He subsequently settled near Sardis, Mississippi, where he was in general practice when the late war broke out. He entered the Confederate service as a surgeon, and continued in that capacity till the war closed. He married in Savannah, November 16, 1865, and made that city the place of his residence. He served in the Legislature of Georgia through the sessions of 1875 and 1876. This apparent divergence from the line of his chosen vocation was made by him in obedience to a sense of public duty and in compliance with the urgent solicitation of eminent citizens who desired to return to the Legislature a judicious and public-spirited medical man, who would lead in procuring the enactment of laws relating to the interests of hygiene in the State. In accepting such public trusts he was especially moved by the hope that he might help to obtain for the State an effective health board. During the session of 1875, the first of his service, the Legislature passed "an act to create a State Board of Health for the protection of life and health, and to prevent the spread of disease in the State of Georgia, and for other purposes." He took a most important part in the preparation and passage of this measure. The board thus created consisted of nine physicians, together with the Comptroller-General and Attorney-General and State Geologist, and it chose Dr. Thomas as its first president, his name appearing as such in its printed reports for the years 1875 and 1876. He was diligent in his attention to the work of the board, and endeavored faithfully to make its ministrations effective for the good of the commonwealth. For the first time in the history of the State, "physicians were recognized as an active and working element in its government." Systematic efforts were made throughout the State to increase the number of those who would favor sanitary reform, to establish a correct method of obtaining and using vital statistics, to organize local boards of health, to define the powers of such boards, to defend the people on the coast-line and over avenues of traffic with the interior against the incursions of pestilence from abroad, and to teach them to recognize and fight against preventable diseases within their own borders. A due supervision of all the public charities of the State was also to be provided for. In fact, a great movement was started which was intended to secure for the State the inestimable blessing of a good body of health laws, wisely administered. In all this admirable work Dr. Thomas was justly prominent, and, had he and his associates been sufficiently sustained by legislative grants and appreciative public opinion, greater results would have been immediately realized.

The good he did, in turning away somewhat from the cherished and most congenial occupations of private practice to serve in public life, will link his name as that of a benefactor with the sanitary history of his State and with the annals of State medicine throughout our entire land.

In 1877 "an act was passed by his State Legislature to provide for the drainage of Chatham County, so as to protect the State from epidemics of yellow fever and other diseases, and to appropriate for said purposes one third of the State tax of said county for the year 1877, and appointing five commissioners to carry the law into effect." On the organization of the commissioners, March 7, 1877, Dr. Thomas was elected their chairman. He took an active and zealous part in the work of the commission, and was its chairman at the time of his death. "The work done by this commission has been effective not only in promoting the public health and material prosperity of the chief commercial ocean gateway of the State, but also in contributing to arrest wholly any invasion of yellow fever since 1876."

"In the winter of 1881 Dr. Thomas had strongly urged the importance of organizing in Savannah a citizens' Sanitary Association looking to the improvement of the public health through the united efforts of private citizens, and as auxiliary to established public methods of sanitation. The result was a public meeting held in the 'Long Room' of the exchange, December 14, 1881, largely attended by leading citizens of Savannah. By special invitation, the meeting was addressed by Dr. Thomas. His views were so warmly adopted that the organization of the proposed association was immediately authorized, and carried into effect February 10, 1882. On this occasion he was elected president of the association, which began with an enrollment of 259 members, subsequently largely increased. Dr. Thomas continued in this office to the time of his death."

Thus, while the doctor was assiduous in the private practice of his calling, and never neglectful of its solemn obligations, he was always concerned about the welfare of the public and ready in suggesting judicious plans to enlist public-spirited citizens in measures for the general health. He was rarely absent from his work, and only for brief periods of rest, when those for whose health he felt a deep sense of responsibility were least liable to be exposed to epidemic influences. He was an esteemed member of the American Public Health Association, and no one who had the privilege of attending the session of that body in Savannah will forget how much the success of the meeting turned on his unostentatious but effective services, and how freely and courteously the hospitalities of his delightful home were dispensed.

His interest in the National Board of Health was early, consistent, and continuous, and he did what he could to advocate the doctrine of the necessity of the establishment and maintenance of that body as the most ready, effective agency through which to give the entire country the benefit of adequate sanitary supervision and police, to lessen the ravages of indigenous, preventable diseases, and to prevent the introduction on the coast-line of such as threatened to invade the country from without.

He was ever willing to do the work that pressed upon him to be done, and to turn aside even from the most congenial occupations of home life and the routine of his daily practice, if only the claim was addressed to his keen sense of public duty. He was not only a physician, he was also a patriot. It was in obedience to such motives that he left Savannah at the close of November last, although not feeling well, to attend a meeting in the city of Washington to complete the arrangements for the International Medical Congress to be held in that city in the year 1887.

He was taken ill on the railway train near Richmond, but continued on to his destination. After reaching Washington his malady took the form of pneumonia. His good wife was sent for; his sympathetic medical brethren aided her in her affectionate and devoted ministrations. At one time the disease seemed to be checked, but the arrest was only simulated; he grew weaker, and on the morning of Saturday, December 6, 1884, departed this life, following, as we have credible evidence, those who have endeavored to imitate the Good Physician.

Even this brief narrative of the life of an exalted member of the medical profession would be very incomplete if we did not make one or two more allusions to the quality of the work that he did day by day for the patients who leaned upon him for sympathy and treatment. He was always on the alert to learn anything which might be for the advancement of his science and art. He was ready to seize a new idea, to develop and utilize it. He was studious and meditative in the line of his calling, notwithstanding the activity of his life, and succeeded in finding time to keep up with the advance in medical literature. It is to be regretted that he did not write more. His paper on Dengue, in the sixth volume of the "Transactions of the American Public Health Association," is an admirable contribution to the discussion of that obscure and most distressing malady.

His opinions, oral or written, on the medical questions of the day were always marked by freedom from passion and by a plain intention to avoid on the one hand the bondage of prejudice, and on the other hasty deduction and restless change. While he was alive to every good impression and suggestion of progress, he was deliberate and judicial in committing himself to that which was new. His honesty and prudence were manifested in these and many other ways, and his patients and professional brethren trusted him implicitly and were not disappointed.

His personal appearance was most attractive and commanding. Tall in stature, he was erect and vigorous in his carriage, impressing even casual observers with the fact that he was a man of more than ordinary force. He carried a good head above broad shoulders; his face was "benignant and serious," and on his manly features a light was radiant which came from a good heart. There was an indescribable quality in his presence and manners which won the confidence of all, but especially impressed and charmed his friends and companions.

It is a source of joy and inexpressible satisfaction that there are so many good and true men in the medical profession of the United States. The whole fraternity may well join in thankfulness that the career of Dr. Thomas among his colleagues, neighbors, and friends was blessed as it was to his family, his patients, and the State; that he attempted with so much modesty and unflinching purpose to realize in his daily work and in his public services so high an ideal, and that his last professional act, in the performance of which he gave his life, included the grand idea of the brotherhood of nations and the community of science and benevolence. From those who knew him well the source of the power in his life was not hidden; it sprung perpetually from a humble belief, not only in the supernatural, but in a personal, triune God, upon whose mercy he had cast himself, and whose law he strove to know, to love, and to obey.

C. R. Agnew.

Proceedings of Societies.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of February 5, 1885.

The President, Dr. B. F. Baer, in the Chair; Dr. W. H. H. Githens, Secretary.

Cervical Pregnancy.—Dr. E. E. Montgomery read a paper on this subject. [See page 208.]

Dr. Goodell remarked that he had no knowledge of cervical pregnancy. One case which had been sent to him as such was epithelial cancer of the cervix. How could such a case be diagnosticated without a post-mortem examination? Dr. Montgomery's hypothesis of an arrested abortion was probably the correct solution of such a case as he had described. The fœtus might be forced out of the body of the uterus and arrested in the cervix by an unyielding os or by cicatricial bands. Some years ago a physician of Philadelphia who had a large obstetrical practice, borrowed his écraseur for the removal of a supposed uterine polypus, which proved to be a fœtus in its amniotic sac. Dr. Goodell had never been able to understand how an experienced man could make such a mistake, but the description of this case of cervical pregnancy had thrown light upon the matter. Dr. Montgomery's description of the distended cervix would apply very well to a uterine polypus with a long pedicle, and a mistake in diagnosis might easily be made.

Dr. Montgomery questioned the primary occurrence of cervical pregnancy. He believed the fœtus had originally taken its seat in the body of the uterus and had been forced into its lower position subsequently; but it might be primary—the internal os being patulous, the same conditions that sometimes caused placenta prævia might cause the entire fecundated ovum to be arrested in the cervix.

Ruptured Uterus.—The President presented the specimens and related the history (which will be published in full in the "American Journal of Obstetrics").

Mrs. F., colored, thirty-two years of age, married ten years, had borne four children at term and had one miscarriage. The first child was extracted with the forceps and was still-born. November 14, 1884, she was taken in labor. A midwife in attendance pronounced everything correct. After a few hours of severe pains, the patient "felt something break in the womb," and labor ceased, but was replaced with sharp pains all over the abdomen, and blood escaped in great quantity from the vagina. Collapse ensued, and she was thought to be dead; but a slow reaction occurred, and her attendants waited for labor to begin again. Dr. Fisher was called to see her ten days after the accident. He found her abdomen tender and tympanitic, and a mass like the head of a fœtus in the right hypochondriac region. The pelvis was empty. Her temperature was 103° F.; pulse 108 and small. Rupture of the uterus, with escape of the fœtus into the abdominal cavity, was diagnosticated. Dr. Baer was called in and confirmed the diagnosis. The patient refused operative assistance and preferred to die in peace, but five days later asked to be relieved. Preparations were made for laparotomy. An examination *per vaginam* revealed a gangrenous pus escaping freely and the placenta loose and hanging from the vagina, the hand passed readily through the os uteri and through a tear in the right wall of the cervix into the abdominal cavity, and came upon the trunk of the child. The latter was extracted through the vagina by version by the feet. It was putrid. The parts were well irrigated with carbolized water, and the hand, again introduced, entered an adventitious sac and nowhere came in contact with intestines or other viscera. The uterus was well contracted and quite small. The uterus and sac were washed out with carbolized water until it returned pure. The patient died of septicæmia ten days after the removal of the fœtus. Dr. Baer was in full accord with the principles advanced by Dr. R. P. Harris in his paper entitled "If a Woman has ruptured her Uterus during Labor, what should be done to save her Life?" ("Amer. Jour. of Obst.," October, 1880, p. 809), in which he advised that the abdomen should be opened and the peritoneal cavity thoroughly cleansed. In this case, however, Nature had protected herself by forming an adventitious cavity, and there could be no reason to open the abdomen to clean this out, as it could be reached from below more directly and without injury to the soft parts.

Dr. Henry M. Fisher said that in Germany a distinction was made between lymphatic septicæmia and phlebitic septicæmia. In the first form the poison was absorbed by the lymphatics, and inflammation of serous surfaces, with exudation, was the consequence. In the phlebitic form, numerous emboli were formed, and hectic fever and local pus formations, the result of these emboli, were found. At the autopsy in this case pleural and pericardial effusion was found. It would be remembered that peritonitis occurred very soon after the rupture.

Dr. Goodell remarked that he had come intending to criticise Dr. Baer for not resorting to laparotomy, but he found himself agreeing with both Dr. Harris and Dr. Baer. In recent cases laparotomy should always be performed, but in fifteen days an adventitious sac had been formed, and the dangers to the patient would have been increased by the operation. He had seen two cases of rupture of the uterus, both of which occurred in the practice of a physician who never used the obstetric forceps, and had to send four miles for a consultant. In the first case peritonitis rapidly supervened, the abdomen became very much enlarged, and the situation of the fœtus could not be ascertained by palpation. The abdomen was not opened. After long groping, the fœtus was found close under the diaphragm. He had great difficulty in extracting it, as the loops of intestines became entangled between its legs; the placenta was also found in the abdomen. In the other case, the body of the fœtus had escaped into the abdomen, but the head was still in the uterine cavity; it was extracted with the forceps. Both patients died. It both cases it would have been far better to open the abdomen. ("Amer. Jour. of Obstet.," vol. x, 1877, p. 478.)

Dr. Harris was in accord with Dr. Goodell and Dr. Baer as to the proper treatment of the case reported. It was too late to do anything when the physician was called. The general opinion was coming around to coincide with his way of thinking concerning the propriety of laparotomy in all cases as soon as reaction from the shock of rupture and hæmorrhage had been established. In the cases reported, after such treatment, fifty per cent. of the patients had recovered. One woman had been reported as having ruptured uterus in four successive labors with delivery *per vaginam* and without laparotomy, and she survived it all; but such a case was phenomenal. Three cases in Europe have been treated by removal of the uterus, as in the Porro operation. The patients all died. There seemed to be no reason for such a method. In most cases the split extended through the cervix, and thus free drainage from the abdominal cavity was secured. One reason for closing the cervical rent by sutures was to avoid the danger of cancerous growths, to which that lesion was supposed to give rise.

Dr. Longaker remarked that many of these patients died from the profound shock and hæmorrhage immediately following the accident. Two in his experience had died within two hours, one of them undelivered.

The President was glad to hear Dr. Harris make the distinction as to the propriety of laparotomy in his case, where the patient was not seen until fifteen days after the accident, and was suffering from septicæmia. He had intended to perform laparotomy, and was prepared for it, but, when he found the newly developed sac, he changed his plan, as he thought nothing could be gained by it.

Ovarian Cysts.—The President exhibited two ovarian cysts. Mrs. B., a widow, entered his private hospital December 18, 1884. She commenced, eight months before, to suffer from frequent calls for micturition, with severe scalding pains, symptoms apparently of cystitis and urethritis. The uterus and ovaries were in good position and seemed normal, but two weeks later there was a burning pain in both ovarian regions with a perceptible bulging, largest on the right side. The menses had ceased and the doctor in attendance suspected pregnancy, but exposure was denied at that time. The abdomen enlarged rapidly, and the patient finally acknowledged the possibility of pregnancy and thought she felt movements of the fœtus. At seven months uterine hæmorrhage commenced and continued every day; the mammæ were atrophied; there were no signs of the presence of a fœtus; there was some fluctuation; the sound was passed and the uterus was found empty and not enlarged; the face was wasted and had an anxious expression, and the pulse was quick. A diagnosis of ovarian cyst was now made. A deep diagonal sulcus could be made out in the abdominal tumor, the largest portion being on the right side; the tumor was smooth-surfaced and without nodules. The cervix was soft, patulous, high up, and drawn to the left. When the tumor was moved the uterus moved with it, as shown by the handle of the sound. Immediate operation was advised and performed. An incision three inches and a quarter long having been made, two large tumors were revealed. Both were tapped. The left one, which was free from adhesions, was withdrawn without difficulty, and its pedicle was transfixed, ligated, and dropped. The larger tumor, although free from abdominal adhesions, could not be drawn out, and it was found to be very tightly adherent to the uterus, which seemed to be one mass with it. As the fluid drawn from this tumor was clear, it was not improbable that it was a cyst of the broad ligament. It became necessary to enucleate the cyst, and a long gaping wound was left in the broad ligament. This was transfixed and tied as a pedicle, but after the final division had been made the ligature slipped and the hæmorrhage was immense; ten hæmostatic forceps were applied temporarily, and the bleeding points were firmly secured. The wound of the broad ligament was closed by ten interrupted sutures. The operation lasted two hours and a half; the patient collapsed, and he feared she would die on the table; but she reacted, and recovery was uninterrupted. The patient sat up in two weeks.

An incident which occurred on the fourth day showed the necessity of the proximity of a physician or a thoughtful nurse. A scream was heard from the patient, an announcement of a sudden pain on the right side; she said something seemed pulling inside of her. Dr. Baer was near and was called, he feared internal hæmorrhage, but at once inquired how long it had been since she had passed water, and learned that it was four hours. The catheter was immediately used and complete relief was secured. After this the catheter was not required until the tenth day, but from the tenth to the twentieth day there was entire inability to pass water except by assistance of the catheter. She went home on the twenty-third day.

The points of special interest in this case were: 1st. The patient being entirely well, symptoms of gonorrhœa presented themselves, and were followed by (2d) amenorrhœa for seven months, and then by (3d) daily hæmorrhages for a month and a half. 4th. Oöphoritis and large tumors forming in eight months and a half from the initial symptoms.

Dr. Beates said that a young lady was obliged to separate from her husband one month after marriage, in consequence of domestic trouble. Her menses continued regular, but her abdomen enlarged as rapidly as if she were pregnant. Her health failed, and at the expiration of nine months an ovarian tumor was removed. Recovery was complete and rapid. In another case he found numerous omental and enteric adhesions, which were easily separated, but pelvic adhesions required enucleation of the cyst, which left a large V-shaped wound in the broad ligament, as described by Dr. Baer. Hæmorrhage was very free; in trying to dissect off the tumor from the fundus of the uterus, that organ was badly wounded; the cavity was opened, and required to be closed by sutures. Great tympany followed this operation, and breathing became almost impossible; the patient recovered.

Calculi in the Female.—Dr. J. W. Snowden exhibited the stones and related the history of the case. He was called, June 1, 1884, to see Mrs. L., aged twenty-three years. She was born and had resided in a limestone region in New York. Up to thirteen years of age she was troubled with enuresis, wetting the bed almost nightly. After this she ceased passing her urine during sleep, but was obliged to rise for this purpose two or three times during the night. She could not retain her urine night or day after the desire to pass it came on. If she could not reach a convenient place, she would wet her clothes. She married when seventeen years old. Two months after marriage she began to have cystic irritation, and soon passed sabulous matter and small calculi. These symptoms continuously increased. Physicians whom she consulted said she had catarrh of the bladder, but none made an examination for stone. Once she was obliged to call on a medical man to remove a calculus which had become impacted in the urethra. Two years ago she spent a summer in New Jersey, during which time she passed no gravel, but the irritation of the bladder continued. When Dr. Snowden first saw her she was urinating very frequently, with more or less pain. She passed stones daily, with a great deal of sabulous matter. The urine looked as if there was a quantity of ordinary sand in the bottom of the vessel. He proposed an examination for stone, which she refused peremptorily. He gave her benzoic acid, which entirely stopped the passage of the sabulous matter and relieved her in every way, but she still occasionally passed a small calculus. This marked relief lasted two or three months, when the irritation of the bladder became worse than ever. She could only pass her urine in the erect posture, and with as much effort as a woman in labor. He insisted upon an examination for stone, but the slightest touch excited such intense pain, even when she was well etherized, that, being alone, he could not manage her, and sent for Dr. B. F. Baer in consultation.

A calculus, measuring about an inch and a half in its longest diameter, was found in the bladder, and removed by Dr. Baer after rapid dilatation of the urethra. This afforded marked relief, and she soon seemed entirely cured; but in a short time her urine began to dribble continually while she was in the recumbent posture at night. During the day she retained and passed her urine naturally. Dr. Snowden advised her to get up at stated intervals and empty her bladder, which had gradually relieved this trouble. She was now quite well, except that she urinated rather more frequently than natural.

CHICAGO MEDICAL SOCIETY.

Meeting of February 2, 1885.

Peroxide of Hydrogen.—Dr. Boerne Bettman read a paper on this drug, with special reference to its use in aural and ophthalmic practice. The history of its use in medicine was summarized, and a sketch was given of its chemistry. Compared with various antiseptics and germicides it had certain advantages, among which was the fact of its relative innocuousness. The author had made some microscopical observations of its action on pus. The pus corpuscles and bacteria were put into active motion when a drop of the peroxide was allowed to flow under the cover-glass, and little bubbles of nascent oxygen were evolved. The corpuscles lost their spherical form, shrank, assumed a crescentic shape, and became heaped up as a mass of detritus. The bacilli were affected in a similar manner—in a few seconds they were transformed into a dead mass mingled with the decomposed pus corpuscles and surrounded by seething bubbles of gas. The therapeutical action of the drug had been explained by its suddenly parting with a portion of its oxygen. He had used it in upward of thirty cases of purulent otitis media, employing a preparation containing twelve volumes of the gas, according to the following method: The parts were thoroughly cleansed with tepid water and dried with absorbent cotton; then from eight to twelve drops of the remedy were instilled into the ear. The patients rarely complained of pain. The parts were then cleansed, and the mucous membrane was seen to have assumed a milky-white appearance. The liberated gas entered the deepest recesses of the middle ear, dislodged decomposing material, and destroyed the bacteria that were imbedded in the tissue. If the perforation was small, the remedy could be injected directly into the middle ear. It had also been used successfully in the treatment of dacryocystitis and in one case of chronic trachoma, which had run its course, but where there still remained a mucoid discharge. Five cases of dacryocystitis had yielded to it after having been subjected to routine treatment with astringents, carbolic acid, Bowman's probes, gelatin bougies, etc.

Dr. R. Tilley had seen the peroxide-of-hydrogen solution used in Paris by Péan as a spray in ovariotomy, and also by Landolt in dacryocystitis, but had seen no manifest advantage that should entitle it to a preference over certain well-known and well-tried remedies, among which he mentioned permanganate-of-potassium solution. It was of considerable importance to ascertain to just what factor of the peroxide solution the alleged virtue was attributable. It was a fact that the solution was rendered more permanent by virtue of an acid, and the acid used was sometimes hydrochloric and sometimes sulphuric. The former was generally the one selected. The quantity of acid used was very small; but, small as it was, it might have considerable influence. It should always be ascertained which of the acids had been used, as minute quantities of sulphuric acid might have very deleterious effects in certain cases. The best test for the presence of the peroxide in solution was a crystal or two of permanganate of potassium.

Dr. W. W. Allport had used the remedy in treating alveolar abscesses and pulpless teeth by filling the cavity of a tooth with the solution; effervescence occurred, and assisted in the cleansing of the cavity.

Dr. J. S. Marshall had treated burrowing abscesses, when for obvious reasons he did not wish to make an external opening, by injecting a solution freely. The relief was much more rapid and satisfactory than from other agents he had used.

Dr. G. Newkirk had used it in cases which were not blind abscesses, and obtained satisfaction. He found it difficult to obtain the substance reliable and to keep it perfect.

Dr. Bettman assented to the suggestions of the last speaker, and admitted that the drug did not keep well, and that it was of importance to obtain a reliable article. He felt sure that the effect on pus was due to the liberation of oxygen.

Missed Abortion was the title of a paper read by Dr. P. O'Connell, in which he gave a report of a case that he had treated, and then exhibited the pathological specimen, which was a mummified-looking mass of the size of a man's closed fist, and consisted of two fœtuses and placentas, apparently encysted in the membranes. His patient was twenty-six years of age, and had one child two years old. Three months after her last confinement the catamenia reappeared, and continued regularly for some months, when they ceased. In addition, the other usual symptoms of pregnancy were present. Three months from the commencement of pregnancy the patient fell, striking rather heavily on her hands and knees. A slight sanguineous vaginal discharge, lasting a few hours, followed the fall, after which the abdomen, that had previously become enlarged, slowly diminished to its normal size, and her health slowly but steadily deteriorated. She had almost constant aching, with occasional severe pain, and a sensation of "going to sleep" was experienced in her left lower extremity. She could not lie on her left side.

Careful palpation of the hypogastrium gave no evidence of uterine enlargement. The left inguinal region was tender on deep pressure. The uterus was fully an inch lower than normal, with the os and the cervical canal so patent as readily to admit the index-finger. The anterior segment of the cervix was thickened. The uterus was a little enlarged, but in no wise sensitive. The sound penetrated to a depth of two inches and a half, and to the left. There was no hyperæsthesia of the vagina, although its mucous membrane was congested. The cervix was congested, and bled readily and freely. There was only a slight leucorrhœal discharge. Ergot and strychnine were prescribed. Soon after the first dose had been taken, uterine contractions set in, resulting in the expulsion of the mass, which was decomposed and abominably ill-smelling. It had, doubtless, lain free in the uterus for at least three months. On closely questioning the patient, she said that during August, which was extremely hot, she felt very cold at night, so as to require heavy bed coverings; that she had had chills frequently, and once a well-marked rigor. These symptoms, with itching, an erratic rash on the skin of the lower abdomen and back, general malaise, and slowly increasing debility, clearly pointed to the absorption of septic matter. The pain in the left lower extremity was due, of course, to the dead weight of the uterus on the branches of the sacral plexus of nerves.

The Treatment of Chronic Spasmodic Bronchial Asthma with Apomorphine.—Dr. G. W. Webster reported two cases, neither of which had yielded to other remedies or been much affected thereby:

Case I.—Mr. G., an Englishman, thirty-four years of age, married, a carpenter, had suffered from bronchial asthma for over a year; he had been in the United States two years and three months. During the past summer, especially at night, his attacks of spasmodic asthma were very severe. In December last, in addition to his asthmatic trouble, the patient suffered greatly from spasmodic attacks of coughing, which lasted several minutes. He had also been confined to his bed for some days. The remedies directed to the relief of his cough, many of which had afforded no relief whatever, were superseded by apomorphine in gr. $^{1}/_{20}$ doses *per os* every three hours for the first day, and gradually increased to gr. $^{1}/_{10}$ *ter in die*. After one day's treatment, he passed a comfortable night. The succeeding night he rested very well indeed, and was up and about on the third day. On the fourth day the remedy was discontinued. The attacks of coughing returned, but in a much less severe form. The use of the remedy was again renewed in $^{1}/_{10}$ gr. doses three times a day and continued for a fortnight, when it was again discontinued. During this time he was able to follow his vocation. More than four weeks had elapsed since he ceased treatment, and there had been no recurrence of his difficulty.

Case II.—A laborer, aged fifty-eight, had had chronic bronchitis with asthma every winter for many years. A few weeks ago he suffered greatly from dyspnœa, with râles over his entire chest; his face and extremities were cyanotic, and he was gasping for breath. Apomorphine was given in doses of $^{1}/_{20}$ grain every two hours. On the succeeding day the patient was considerably relieved, and in another twenty-four hours he could breathe freely. The remedy was continued a few days longer in $^{1}/_{10}$ gr. doses three times daily, and he so far recovered that the writer had not been called to see him.

Dr. C. T. Fenn recited an interesting case of frostbite that had come under his observation recently. He referred to the mismanagement of the case at first, in which those who attempted to render assistance by rubbing with very cold snow and ice had also endangered themselves. This portion of his report related particularly to the careless method of using a very useful article, as was often done, he thought, by the laity in other cases of illness before a physician was called.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of November 13, 1884.

The President, Dr. B. F. Westbrook, in the Chair;
Dr. A. H. P. Leuf, Secretary.

Cirrhosis of the Lung.—Dr. H. Messenger Ayres showed a specimen taken from the body of a man who was a laborer in a foundry, where he had long been accustomed to breathe an atmosphere laden with metallic and mineral substances, and was also exposed to frequent changes of temperature. His habits were none of the best as to either eating, drinking, or breathing; so that it was not surprising that the air-passages should have felt the first brunt of the disturbing factors. [The speaker then gave a summary of our knowledge of cirrhosis of the lung.] The clinical history of this case had begun with the usual symptoms of acute bronchitis becoming chronic. The inhalation of the iron and carbon, together with other heavy dust-particles, kept up a continuous irritation, and consequent flow of blood to the delicate epithelial mucous membrane along which they were carried to the air-vesicles. From the fact of their heaviness they were difficult to dislodge, notwithstanding the excessive local secretion and violent spasmodic efforts made for their extrusion. The constant tendency of these particles was to imbed themselves in the single layer of epithelial cells which lined the air-vesicles, already softened and proliferating under this flow of blood to them. The glandular or adenoid character of the epithelial structure of the air-vesicles was a point worthy of the most careful scrutiny and attention, here as elsewhere in the body where epithelial tissue occurred. In this case there was a true diapedesis or translation of these heavy particles from the air-surfaces of the vesicles into the epithelia, and through them into the intercapillary spaces occupied by soft connective tissue. These particles followed the same course as the plasma which was excreted by the bronchial endothelial capillaries into the intercapillary spaces for the maintenance of tissue-cells, and, as a consequence, we found these dark pigmentary masses distributed along the course of the soft connective tissue, the lymphatics and the bronchial glands. The presence of these irritating particles in these positions excited the flow of blood, and increased proliferation of the connective tissue took place, which thus became the prominent lesion. When this connective tissue subsequently contracted, it still further impeded the true pulmonic circulation. As a consequence, there was a damming up of the venous circulation upon the right side of the heart and all parts connected with it, leading to general dropsy and degenerative changes. This same contraction of the cicatricial tissue might affect the nutritive circulation of the lung tissue, whereby some parts were underfed and starved, while others were overfed, engorged, or hyperæmic—all leading to local collapses, infarctions, and degenerations.

The extent of lung involved varied in different cases. The larger size and arrangement of the right lung and the bronchus which supplied it rendered it liable to earlier and more special invasion; but, since the exciting cause was general, where it was long continued, both lungs became in time more or less involved.

The primary area of disturbance was toward the roots of the lungs and upon the air-vesicles nearest that region. The contraction of the connective tissue around this region interfered both with the entrance and with the exit of air, the dilating effects of the former falling upon the bronchia, while the expulsive compression of the peripheral air-cells by the respiratory muscles and chest-walls tended to dilate and break down the partitions between them and bring about the well-known condition of emphysema. Special attention was drawn to the lymphatic glands at the root of the lung, where the pigment was very abundant and very dark. These glands sometimes suppurated and formed large depots of pus, encroaching on the chest contents. Pleuritic complications, as in the present case, sometimes occurred, giving rise to similar results. It would perhaps better aid us to appreciate what had taken place in the transmigration of this foreign matter if we examined an analogous process which occurred in tattooing.

Epithelioma of the Scalp; Removal; Recovery.—Dr. H. F. W. Risch presented a specimen which, from its macroscopical aspects, indicated an epithelioma. It had been removed from the scalp of a gentleman sixty-two years of age, September 5, 1882. According to the history given by the patient, it had been a small, hard, movable, wart-like tumor as long as he could remember, not giving him any inconvenience until about five years before its removal, when he wounded it with a comb. It remained sore, and gradually became larger under the use of plasters and ointments. Three years later he had "a magical herb doctor" try to "pull the thing out with the roots" and what not. From that time on it enlarged and became very painful, and also caused general headache. It was still movable and without lymphatic implications. The excision was done by the speaker at his office. The somewhat profuse bleeding was controlled by pressure. The wound was drawn together with ligature silk, but a gap of an inch and a quarter was left to cicatrize. The dressing was of old linen compresses wetted with a warm solution of carbolic acid in glycerin and water. With the exception of some sloughing of fascia, the wound healed in four weeks' time. There had thus far been no sign of a return of the disease, and the patient was very comfortable.

Strumous Testis; Removal; Recovery.—Dr. Frank W. Rockwell presented a tuberculous testicle removed last March from a man of sixty. The patient, a carpenter, had first noticed his disease six weeks before presenting himself for treatment. He had been in perfect general health, but, after lifting a heavy package, rapidly developed symptoms of tuberculous epididymis. An exploratory incision was made, evacuating a hydrocele which complicated the disease and rendered a positive diagnosis difficult. Examination of the testicle revealed the epididymis as a hollow sac, containing pus and granular *débris*, and the organ was therefore extirpated completely. A catgut ligature was used for the cord, and the wound was dressed with napthalin and wood-flour. The dressing was not changed frequently. The wound healed, and the patient was about in three weeks. He had remained well ever since. The speaker advocated extirpation of the testicle in this class of cases, first, because the patient was at once relieved of a probable source of constitutional infection, or disease of the genito-urinary tract, the operation ranking with removal of strumous glands or joints; secondly, because to a laboring man of advanced years, as in this case, or even a young adult, time was an important element, and everything depended on his speedy restoration to his usual open-air avocations. Among the better classes, or where both testicles were affected in a young adult, perhaps doubt might be entertained as to so radical a procedure.

Dr. J. H. Hunt remarked that he had seen a section of the specimen, and it had seemed to him interesting, for, when he first examined it, he found so much connective tissue in strands forming alveoli that he was inclined to consider it epitheliomatous; closer inspection, however, revealed that the alveoli were simply formed by the increase of normal connective tissue. The mistake was due to imperfection in staining and other details. He found the seminiferous tubules full of *débris*.

Horseshoe Kidney.—Dr. Frederick H. Colton presented a handsomely mounted horseshoe kidney, showing it in its normal position as it rested upon either side and in front of the lumbar vertebræ, with the isthmus running across the fourth. The renal veins and the vena cava were painted blue, the aorta red, and the ureters yellow. There were three of the last, two coming off from one side. The specimen was anomalous inasmuch as it had no pronounced arterial supply—the renal arteries were wanting. Only a few twigs could be seen entering the organ from the aorta. The main supply came, probably, from under the organ. He had prepared the specimen some years ago in conjunction with Dr. Leuf.

Myxoma of the Thumb.—Dr. George Wackerhagen related the following case, and exhibited the specimen: Margaret O'Donohoe, aged thirty-three years, of Irish parentage, born in Holland, the mother of seven children, gave no family history of tumor or tuberculosis. She first complained of pain in the thumb when at laundry work about seven years ago. Two years after this she noticed a small tumor on the palmar surface of the first phalanx of the left thumb, which grew very slowly, and gave no pain until two years ago, and then only on pressure. The tumor was hemispherical in shape, measuring an inch and a half in its longest diameter and three quarters of an inch in its shortest diameter. It was covered to a limited extent by normal skin loosely connected with the tumor by fibrous tissue. The tumor was covered throughout by a very delicate fibrous capsule. There was a number of smaller tumors connected with it, varying in size from that of a pin-head to that of a bean. The tumor consisted largely of mucous cells, with granular and fibrillar intercellular substance. There were extensive areas of fatty metamorphosis in the interior.

Interstitial Fibroid of the Anterior Wall of the Uterus.—On behalf of Dr. W. F. Gardiner, Dr. Leuf showed a uterus having a fibroid tumor occupying the whole of the anterior wall above the internal os. The specimen was interesting in that it demonstrated the possibility of readily mistaking this condition for an anteflexion. The tumor had encroached but little upon the uterine cavity, while its forward projection toward the bladder was most decided. In a case like this, the symptoms of vesical irritation and the anterior angular deformity felt by the finger might lead to a diagnosis of anteflexion. The sound, however, would expose the fallacy, and this fact was additional proof of the advisability of using that instrument.

The Diagnostic Value of Ciliated Columnar Epithelium in Cases of Hydrosalpinx and Pyosalpinx.—Dr. Frank Ferguson read a paper with this title. [See page 211.]

Dr. A. J. C. Skene remarked that he would say a word on the specimens because of their importance in establishing the diagnostic value of ciliated epithelium in these diseases. The case under discussion stood, in his mind, "Lawson Tait *versus* Frank Ferguson." He would take sides with Ferguson because he was in the right. Tait simply would not believe that another had found what he himself did not discover, and would remove the tubes any way, and so failed to see the value of being able to make a diagnosis as maintained by Ferguson. He believed, however, the early and certain diagnosis of these diseases to be very valuable, and it was easy to come to a positive conclusion by aspirating the tumor and searching for the characteristic cells. Hardly any danger to the patient could be imagined if proper precautions in regard to cleanliness were taken. It was an easy matter to treat all these cases if they were diagnosticated early. Two cases occurred to him that had some bearing on this subject. They had been treated by Dr. Cushing and himself. In one there was frequent gushing of fluid from the uterus. The patient had an irregular tumor. She was relieved and cured by aspiration. He would not say that pyosalpinx was as readily cured by this means, but recalled one such case resulting in recovery after the withdrawal of four ounces of pus by aspiration. It was, any way, always better for the surgeon to know exactly what he had to treat. It was also of value to differentiate between an ovarian and a tubal enlargement. On the other hand, it was poor policy to await the growth of an ovarian tumor up into the abdomen before making a diagnosis. Lawson Tait was the champion of the tube of Fallopius, and it was to be regretted that he stood upon the ground he now occupied. If Mr. Tait, as he professed, had exhausted the subject, Ferguson had not. One year ago Ferguson had either twenty or twenty-one specimens of salpingitis, and in all but one or two of these did he find the characteristic ciliated cells that lined these ducts. He had a case himself but a short time ago, in which he aspirated the fluid contents of a pelvic tumor, and found it contained ciliated cells. The diagnostic value of these could hardly be overestimated.

The President inquired as to the practicability of finding the tube by examination *per vaginam*. He thought the members present would like to hear something on that point.

Dr. Skene continued that there would be hardly any difficulty, as the tube began to settle down behind the uterus into the *cul-de-sac* as soon as it commenced to fill. It could be more readily made out by bimanual examination, provided the abdominal muscles were not too rigid or the walls too full of fat. Probably the best way was to pass the finger as high into the vagina as possible and then press directly backward against the sacrum, when the tumor would easily be felt between the bone and the finger. Often it was hard to tell whether it was an ovarian cyst, a distended tube, or encysted inflammatory products; but it was always easy to aspirate. To do this it was proper to discover the point of greatest fluctuation and introduce the needle there. No harm could be done in this way. A vessel of any importance could be felt by the examining finger and easily avoided. These needle punctures were harmless, as was so well illustrated in those made to relieve abdominal distension due to flatus.

The Committee subsequently reported as follows:

"We, the undersigned, having been appointed a committee of five by the president of the Brooklyn Pathological Society, pursuant to a motion made to that effect by Dr. Frank W. Rockwell, and seconded by Dr. J. W. Hunt, at the stated meeting held on November 13, 1884, met at the residence of Dr. B. F. Westbrook, on the evening of November 22, 1884, and then received Dr. Frank Ferguson, who presented to your committee for investigation a specimen of pyosalpinx removed from the body of a woman that day, and other old specimens of salpingitis which had been preserved in dilute alcohol for periods varying from a few months to two years.

"Nothing but the fluid contents of these cysts was examined, and it was obtained by the same person in exactly the same way each time—i. e., the wall of the cyst was made tense by slight pressure, when a small puncture was made with a shawl-pin and the slide immediately applied to the exuding drop or two of fluid, which was at once covered with a thin cover-glass and then examined. Nothing was added to the fluid upon the slide.

"Specimen No. 1 was fresh, being from a case of double pyosalpinx. Your committee, in a short time, succeeded in finding cells of ciliated columnar epithelium, the identity of which was satisfactorily demonstrated to all present.

"Specimen No. 2 was one of unilateral hydrosalpinx, and had been in dilute alcohol for at least two years. In this it was impossible to detect any ciliated cells.

"Specimens Nos. 3, 4, 5, and 6 were either cases of hydrosalpinx or pyosalpinx, and well-marked cells of ciliated columnar epithelium were found in all of them.

"Your committee, having been in session for a considerable time already, decided it to be useless to spend any more time upon the rest of the specimens, as the result of the examination thus far demonstrated the diagnostic value of these ciliated cells in cases of salpingitis beyond the slightest doubt.

"It may also be well to state further that each member of this committee has had satisfactorily demonstrated to him, either by himself or some other member of the committee, the ciliated cells found in Nos. 1, 3, 4, 5, and 6.

"Dr. Ferguson was not present during the course of the examination.

"(Signed)
Benjamin F. Westbrook, *President*,
Jo. H. Hunt,
Charles Jewett,
J. C. Shaw,
A. H. P. Leuf, *Secretary*."

Gastrostomy.—Dr. George R. Fowler read the history of a case. [See page 210.]

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of January 17, 1885.

Dr. Andrew H. Smith in the Chair.

Discussion on Diabetes.—Dr. Satterthwaite remarked, in opening the discussion, that our ideas of glycosuria might be grouped about the four clinical phenomena that characterized the disease, viz., inordinate thirst, excessive appetite, bodily emaciation, and glucose in the urine, the latter being always the prime symptom that decided the nature of the disease. The ordinary chemical tests established the presence of sugar, if it existed in any quantity; on the other hand, tests that indicated only a minute quantity of sugar had little clinical value, as normal urine contained a small proportion of grape-sugar. The occurrence of sugar in the urine might be explained by studying the results of observations by Claude Bernard, Schiff, Landois, Klebs, Pavy, Eckhardt, and others, who had shown that injury to the sympathetic filaments, either at their roots or in any part of their course, or of the cervical or thoracic ganglia, would cause glycosuria; also any agents, such as curare, chloroform, ether, chloral, amyl nitrite, or carbonic oxide, that would temporarily paralyze these nerves, might be considered causative. The peripheral nerves, such as the pneumogastric and the sciatic, might also, by reflex action, accomplish the same result, as many experimenters had shown. In all these cases it was believed that vaso-motor paralysis of the hepatic vessels took place. With the increased current of blood to the organ it was thought that superoxidation took place. Injury to the parenchyma of the liver was also shown to induce glycosuria, and injection of unusual amounts of saccharine material or of material that was capable of conversion into the former. Abnormal action of the pancreas was also thought to induce this condition, and the morbid changes found in the organ post mortem seemed to sustain this view.

The post-mortem appearances were also in accord with these ideas, for, though the liver had been found diseased in about one half the cases, in a large number the nervous system was found to have been involved, and in such a manner as to sustain the physiological experiments. Thus, Klebs had reported a case in which he found unusual dilatation of the hepatic and splenic arteries, and von Recklinghausen had made somewhat similar reports. Though Dickinson's description of the microscopic appearances in the brain did not imply anything distinctive, Richardson had made an important contribution to the pathological anatomy by finding an ossific growth pressing on the pons, while Dompeling had observed a tumor of the size of a nut occupying the whole of the right half of the medulla, Ponocklo had detected an infiltration of the cervical ganglia with connective tissue, so that the nerve fibers and cells had virtually disappeared, and Silver and Harley had found lesions of the cord and pneumogastric respectively.

The change in the kidneys was a prominent phenomenon. Rokitansky had observed it in sixty-seven per cent. of his post-mortems of diabetics, but there was hardly any doubt that this metamorphosis was secondary, as indeed our clinical experience demonstrated. It was not to be expected that the organs could do an increased amount of work continuously and not show the effects of it; and this they usually did by their increased size and the swollen and otherwise altered condition of the parenchyma. Though the lungs had been found diseased in a large proportion of the post-mortems (in about fifty per cent. tubercular, according to Griesinger), it was not certain that this condition preceded the diabetes; indeed, such statistics as were at hand appeared to show that all pulmonary lesions, whether those of pneumonia or those of phthisis, were concurrent and late features of the malady.

In considering the ætiology of diabetes, it was plain at the outset that it was found most frequently in persons of neurotic constitution, and especially in families where there was insanity or epilepsy. The exciting cause was frequently some violent impression upon the nervous system, as by mental emotion, physical injury, sexual abuse, and possibly alcoholism and the opium habit. Whether exposure to cold and malarial infection were to be classed among the causes was not clear. It was most frequent in males who had passed middle age.

The symptomatology of the disease was incomprehensible unless we adopted the three subdivisions of temporary, mild, and severe forms, when it would be found that the cases naturally fell under one or the other head. In a case of temporary glycosuria, while there might be inordinate thirst, increased appetite, and some diminution in weight, all the symptoms yielded readily to a restricted diet and a moderate amount of medicine. The disease, once arrested, was cured. When the attack followed the taking of chloroform, ether, etc., it was even less severe, and hardly disturbed the economy to an appreciable degree. In the mild form, the same treatment reduced the disagreeable phenomena to a minimum, and the patient continued to enjoy fair health and might have a complete disappearance of the trouble for a considerable length of time. In the severe forms, however, the disease was never under complete subjection; although a restricted diet would always modify some of its most unpleasant features, still the patient gradually failed, and, sooner or later, some complication was noted, such as nephritis, phthisis, a cardiac disorder, gangrene, carbuncles, etc., that ended his life often in a most unexpected manner. Usually death was brought about by uræmia, possibly by acetonæmia in a small percentage of the cases, but of this there was every reason to speak guardedly.

Of the twenty or more tests for sugar, there were few that could be recommended except Trommer's and Fehling's for qualitative analysis, and the volumetric, differential-density test (Roberts's) and George Johnson's for estimating the quantity. Fehling's had gradually superseded Trommer's because it demonstrated a smaller quantity of sugar and was less liable to misinterpretation in the hands of inexperienced persons. It would be best to mix the several ingredients afresh each time it was used, as the preparation was unstable. The formulæ given for this purpose by Flint, Jr., and Bailey were the best. The volumetric method (with Fehling's standard solution) was theoretically the best, because it insured accuracy and was rapid. Practically it was difficult to tell at what moment the suboxide of copper was deposited. Great errors might, therefore, result, and the apparatus was somewhat elaborate and expensive. The most accurate in ordinary clinical work was Roberts's, but it was necessary for the fermentation to proceed at a moderately high temperature (about 70°), and even then it required twenty-four hours. The apparatus was, however, inexpensive and simple, a good ureometer being the thing of prime importance. Dr. George Johnson's method theoretically exceeded all others for quick work and accuracy, as the apparatus could be carried in the pocket and the quantity of sugar estimated at the bedside. It was a color test, and the quantity of sugar was determined by comparing the saccharine urine after the application of picric acid and potash with a standard solution of iron and ammonia. The fact that a large number of persons could not distinguish the finer shades of color upon which the test depended, prevented its being generally accepted.

One of the first principles to be laid down in the treatment of glycosuria was that the patient should adhere rigidly to a restricted diet from which all sugar and starchy food was excluded, and that each case should be treated according to its special indications. Thus, neuralgic pains were best combated by opium or its alkaloids. Codeine, as recommended by Pavy, had met with general favor, because it was an agreeable sedative and did not materially increase the constipation that was a marked feature of glycosuria. But other sedatives, such as bromide of potassium, had also been found useful, as well as curative, in connection with a restricted diet. Ergot and ergotin, in physiological doses, had also aided materially, as would be supposed by a study of the ætiological factors. Certainly at the present time Clemens's solution of the arsenite of bromine (dose, $\frac{1}{16}$ to $\frac{1}{24}$ of a grain, three times a day) was the most popular empirical remedy. Gluten and bran-bread were not generally acceptable to diabetic patients, as they found them very disagreeable. The complications often needed attention, and so cod-liver oil for the pulmonary disorders, tincture of chloride of iron for the failing renal power, Fowler's solution for the pruritus and eczema, digitalis, alcoholics, and diffusible stimulants for heart failure, had to be recognized as important factors in the treatment.

Dr. Satterthwaite based his views upon a certain amount of personal observation. He believed, however, that few if any physicians could speak from a very extensive experience in the treatment of glycosuria, as it was unquestionably a comparatively rare disease. Among the first ten thousand patients treated at the New York Post-Graduate Medical School and Hospital there had been but three diabetics, and this tallied exactly with Romberg's statistics at the Vienna Poliklinik. The speaker had, however, collected forty-one cases occurring in his own practice and in that of his friends, and had used the data thus furnished.

Dr. **William H. Porter** then read a paper on the subject. [It will be published hereafter.]

Dr. **Bache McE. Emmet** said that he had the records of only two cases of this trouble, and both of them had been of the temporary variety. He considered the disease dependent upon an affection of the vaso-motor system. In all probability, there was at first an excitement of this system, followed by a paresis. He directed his treatment to the overcoming of this exhausted state; tonics, and especially strychnine, were employed, and a cure had been effected in from six to eight weeks. Both of his cases had been in women, and were accompanied with certain troublesome symptoms. They had a constant desire to urinate, and suffered from a urethritis, which was probably caused by the irritating character of the urine. There was also an elytritis, accompanied with intolerable itching; the mucous membrane, too, had a peculiar dry and glistening appearance. This was probably caused by the dribbling of the urine back into the vagina. This condition he had treated with emollients, such as flaxseed and glycerin, and the symptoms had yielded readily.

Dr. **W. O. Moore** said that Rollo, in 1798, first called attention to eye trouble in diabetes, although Blankaarst, in 1688, mentioned a case of blindness from this disease, in which, however, it was subsequently found that both the diabetes and the blindness were due to a tumor of the brain. The affections of the eye in diabetes mellitus were disturbances of refraction and accommodation, cataract, opacities in the vitreous, retinitis with and without hæmorrhages, and atrophy of the optic nerve and retina from cerebral causes. Disturbances of refraction and accommodation occurred in the progress of the disease when the general muscular tone was impaired, and they were improved by the fitting of convex glasses and by the use of eserine locally, thus restoring the accommodation. They also usually subsided without treatment, when the condition of the patient was improved. Cataract was the most common of the diabetic disorders, and had long been recognized, usually occurring after the disease had made considerable progress in both eyes. It was apt to be soft, but might be hard and firm. It occurred, according to Roberts, once in forty-five diabetics, while Bouchardat had found it once in thirty-eight. The prognosis in diabetic cataract was not so good as in the uncomplicated cases, still he recalled two cases where the result of an operation had been all that could be hoped for. If projection of light was good, he would operate in any case of fully formed diabetic cataract.

The ætiology of cataract in this disease had been much discussed, and in this connection the experiments of Dr. Weir Mitchell on frogs were interesting. He produced cataract in those creatures by injecting syrup into them, but the opacity of the lens would disappear again when the frog was soaked in water. To prove that the opacity thus produced in the lens was not due to desiccation, he placed ten frogs in long bottles with wide necks, and let them remain there for a time; the frogs became emaciated and shrunken, but no opacity in the lens appeared. The clinical fact remained that in diabetes insipidus we did not find cataract. It was probable that it was produced by the change in nutrition due to the abnormal condition of the blood.

Opacities in the vitreous were frequently found in the progress of diabetes, merely as small hæmorrhages into its substance, which were absorbed slowly and gave rise to great annoyance. Again, there might be retinitis glycosurica, with or without hæmorrhages. The former variety had been found quite frequently in the later stages of the disease, and had given rise to confusion in diagnosis, as the retinal appearances were like those found in Bright's disease. In some of these cases albumin had been found, and in others it had not. Vitreous hæmorrhages usually accompanied this particular form of trouble, and, as a rule, they were recurrent, yet in retinitis albuminurica, so called, it was of common occurrence, which might be a good diagnostic point between the two. Retinitis without hæmorrhage was occasionally seen, and in this variety the more ordinary appearance of œdema and opacity of the retina were observed. This form generally terminated in atrophy of the retina and optic nerve.

A rare condition was that of an increase of fat globules, so that they could be seen floating in the blood-vessels, such a case having been reported by Dr. Heyle ("Phil. Med. Times," vol. x) as lipæmia retinalis. All the retinal changes were probably due to the blood dyscrasia, although Dickenson considered them due to the brain-tissue changes. Of 1,009 cases of retinitis treated at the New York Eye and Ear Infirmary during the past fifteen years, thirty-six were due to albuminuria, and none to diabetes. Of 2,302 cases of cataract, only one was of the diabetic variety.

Dr. S. E. Post referred to the increased excretion of urea as a proof of the hepatic lesion. According to the latest investigations, the final product of leucin and tyrosin was urea, which was, chiefly at least, produced by the liver. Its persistent increase would tend to show, therefore, some derangement of the normal functions of that organ, even though no lesion could be proved.

Experiments with Moleschott's iodoform treatment had been made by Dr. Josephine Chevalier and herself. No dietetic regimen was instituted, one of the two patients living upon a mixed diet, while the other, who was of a lower social grade, lived upon bread and tea. In each case the dose was from fifteen to thirty grains a day, and the whole course of treatment covered six months, during which time the limits of safety were approached three times. Upon the appearance of toxic symptoms the sugar and urea were both increased to or above their original quantities, and when the drug was discontinued for a time to allow of the subsidence of this complication they would again decrease to the same amounts they had reached before the exacerbation. Previous experimenters had remarked that the benefit from iodoform in diabetes was obtained in the first few days of its use, and that no further improvement followed, the inference being that the system became habituated to it, and a larger dose was probably required. According to her investigations, however, this arrest was because too much, not too little, of the drug was used. Iodoform apparently accumulated in the system. In its administration, therefore, one must be prepared to have the treatment interrupted from time to time. One to two grains would probably be a large enough dose for all practical purposes at first, although the toxic symptoms were not of much consequence, as they soon disappeared. A number of objections have been urged to the treatment with iodoform, but in the cases reported none of them had been found insurmountable, even the eructations having been overcome by giving the whole dose in capsules at night. Theoretically, there was much in favor of iodoform; in small doses it acted as a sedative to the nervous system, particularly the cerebral centers, it affected the liver before it did any other extra-cranial organ, and caused a primary augmentation of cerebral tension, excepting in the most overwhelming doses—results particularly desirable in the disease under discussion. In the therapeutic dose it had a mild laxative effect; hence it obviated rather than aggravated the usual constipation. Probably, if we were better acquainted with the best modes of administration, we should find it a very valuable remedy in the treatment of this difficulty.

In the patients that she had reported as under this iodoform treatment the diabetic symptoms had developed shortly after the menopause, and the expression "climacteric diabetes" had been made use of by a Chicago physician.

The speaker then reported a case of diabetes insipidus.

(*To be concluded.*)

Miscellany.

The Illinois State Board of Health.—We are glad to see such appreciation of the excellent work done by the board as is shown in the following passage in the biennial message of the Governor of the State: "The State Board of Health, which was in its inception very difficult to establish by legislative enactment, has steadily grown in usefulness and popular favor, until now it is one of the most important bureaus of the State government. By reason of the able management of its members, and especially of its secretary, the medical profession of the State has been very much elevated and improved. Incompetent beginners have been prevented from practicing. The grade of medical education required for practice has been raised to a respectable and safe standard, while mountebanks and quacks have been driven from the practice of their wiles and deceptions on the people of this State. The health of the citizens and their protection from inroads of contagious and epidemic diseases have been faithfully and carefully watched. Rules for sanitary care and regulation and instruction as to prevention and cure of prevalent and especially dangerous diseases have also been so successfully published and promulgated that it is believed thousands of lives have been saved."

The New York Polyclinic.—At a recent meeting of the Faculty it was decided to establish a pathological department and laboratory, and Dr. Frank S. Billings, of Boston, has been invited to take charge of the same. Dr. Billings has been intimately associated with Virchow, in pursuing his pathological studies, for a period in all of about six years, and has spent the past six months in Germany in investigating the bacillus question. He has brought with him a complete apparatus for bacillus culture. Rooms are to be fitted up in the Polyclinic building with special reference to original research and instruction in this important department.

Fatal Hæmorrhage from an Injury to the Tongue.—Dr. A. B. Sweet, of Hanley, Minn., sends us a newspaper clipping recounting the death of a child, fifteen months old, one week after a fall from a chair in which it bit its tongue, the wound being no larger than the head of a pin. The account concludes with this statement: "It appears that profuse bleeding in the event of wounds is hereditary with one branch of the family." Dr. Sweet says: "Will some contributor to the journal give advice as to treatment in such a case, and does it require more than minor operative surgery? Should we not consider the hæmorrhage due to congestion from the probable concussion of the brain more than from a diathetic condition?"

The Mariani Wine of Coca.—Messrs. Mariani & Co. have issued a pamphlet which contains striking testimony to the value of their well-known *vin Mariani à la coca du Pérou* from such men as M. François Franck, of Paris, and Dr. Louis Elsberg, of this city. The pamphlet contains a good deal of information about the coca-tree, and, in view of the attention that has lately been drawn to coca, will no doubt lead to extensive trials of the Mariani wine in this country. It may certainly be said of the preparation that its taste is most agreeable, a fact which is of no small consequence in the case of many invalids.

The Use of Vaseline in Articles of Food.—We learn from the "Gazette hebdomadaire de médecine et de chirurgie" that some of the French bakers have hit upon the expedient of making cakes with vaseline instead of lard or butter, and that the Council of Hygiene has very properly taken the ground that the practice ought to be prohibited, both because there is no nutriment in the petroleum derivatives, and because it is by no means certain that their ingestion may not be injurious.

THERAPEUTICAL NOTES.

Ozone in the Treatment of Chronic Nervous Affections.—M. Eyselein ("Arch. de neurol.") believes that ozone has a specific action in several nervous diseases. Although he has not yet published any statistics on the subject, he has made a sufficient number of observations in hospital practice to enable him to speak positively. The effect of ozone seems to be sedative as well as hypnotic.

Bromoform as an Anæsthetic.—Bonome and Mazza ("Centralbl. f. chir.") have performed a number of experiments with this bromine compound, as a result of which they draw the following conclusions: Bromoform is a general anæsthetic, slower in its action than ether and chloroform, but otherwise closely resembling them. There is no preliminary stage of excitement, but bromoform seems to cause a diminution of the irritability of the brain. Respiration is not affected, nor is there any danger of cardiac paralysis. Nausea and vomiting do not occur during the stage of recovery. The quantity of bromoform required to induce profound anæsthesia is less than that of chloroform, and the patients recover more rapidly. Given by the mouth, it acts as a hypnotic; its subcutaneous use is not unattended with danger. Experiments were made with the bromides of ethyl and ethylene also, but these are regarded as less safe and efficient than bromoform.

A New Method of treating Gonorrhœa.—Senftleben ("Monatsh. f. prakt. Dermatol.") uses small medicated bougies, which he introduces into the urethra by means of an instrument that he calls a "pistol" (probably similar to a Sims's uterine applicator), pushing them down to the membranous portion, where they are left to dissolve. The first application is said to be very painful, but the sensitiveness soon disappears. The following is the formula for one variety of these bougies:

Subnitrate of bismuth, White of egg, each	15 grains;
Gum arabic	45 "
Glycerin	5 drops;
Mucilage	1 drop.

Make ten bougies, from 7 to 10 ctm. long.

Iodoform, sulpho-carbolate of zinc, corrosive sublimate, and nitrate of silver are also used, in amounts varying from one sixtieth of a grain (of the sublimate) to two grains. The following advantages are alleged: 1. The application is strictly localized at the seat of the inflammation, the exact situation of which may be determined previously by means of the endoscope. 2. The medicinal substance remains in contact with the inflamed surface for a long time, which is not the case when injections are given. 3. The inflammation is cut short, so that the danger of stricture is averted. The writer is not satisfied with pursuing the treatment until all discharge has ceased, but continues it until not a single sensitive spot remains in the urethra.

Cocaine in the Treatment of Gonorrhœa.—At a recent meeting of the New York Medical and Surgical Society, Dr. George A. Peters mentioned that he had lately injected a solution of hydrochlorate of cocaine into the urethra, for the relief of chordee, and that it had not only accomplished that purpose, but also decreased the discharge so decidedly that the patient subsequently continued its use on that account.

Resorcin.—Cattani ("Monatsh. f. prakt. Dermatol.") recommends an ointment composed of from 15 to 30 grains of resorcin to 2½ drachms of vaseline. He reports cases of epithelioma of the skin, bedsores, diphtheritic inflammations, etc., which were much benefited by the use of the ointment. When wounds of the skin are dressed with a one-per-cent. solution of resorcin, they heal rapidly, without suppuration, and with little tendency to the formation of scars.

Perosmic Acid in the Treatment of Neuralgia.—In our issue of September 6, 1884, p. 279, we gave a summary of Wildermuth's experience in the treatment of neuralgia with osmic acid. Fränkel ("Berlin. klin. Wochnschr."; "Practitioner") states that he has made numerous experiments upon animals with perosmic acid, to determine the exact effect of deep injections of the drug, as recommended for the cure of neuralgia. Severe local inflammation took place, resulting in extensive degeneration of the nerves and muscles, and the influence of the remedy upon neuralgia was inferred to lie in the fact that it exercised a direct action upon the medulla of the nerve. Caution is advised in its use.

Iodide of Potassium in the Treatment of Pneumonia.—The "Practitioner" summarizes two articles on this subject by Schwartz ("Bull. gén. de thérap.") and Gualdi ("Boll. della R. Acad. Med. di Roma"). Schwartz recommends the administration of six grains of the drug every two hours, and records a number of cures under this treatment. Ice-bags were applied over the affected lung. Gualdi has followed the same method in many cases with great success. Both observers agree that the use of the remedy causes a speedy disappearance of the fever and dyspnœa, while the local condition remains unchanged. It should be given at the outset, and the applications of ice must not be continued after the stage of congestion is past. It is noted that children respond to the treatment better than adults.

A Combination of Bromides for Epilepsy.—Erlenmeyer ("Centralbl. f. Nervenheilk."; "Centralbl. f. die ges. Ther.") recommends the following formula:

Bromide of ammonium	30 grains;
Bromide of potassium, Bromide of sodium, each	1 drachm;
Water	24 ounces.

The whole is to be given in the course of twenty-four hours. It is said that the use of this mixture does not cause bromism, even acne not having been observed under its action, and that its control over the attacks is very decided.

Dundakin.—According to Häckel ("Dtsch. Med.-Ztg."), this new drug, called also *doundakin*, is obtained from the bark of the *Sarcocephalus esculenta*, a native of Senēgambia. It is a bitter resinoid body, soluble in water and in alcohol, having astringent and antipyretic properties, and has been suggested as a substitute for quinine.

Fibrin-Peptone.—M. Grehant ("Progr. méd.") uses this preparation as an artificial food. Its composition is as follows:

Pepsin	30 grains;
Hydrochloric acid	1 drachm;
Fibrin	3 ounces;
Water	1 quart.

It is to be given by the mouth.

A Resolvent Ointment.—M. Mallez ("Union méd.") gives the following formula:

Iodide of lead	75 grains;
Iodide of potassium, Extract of belladonna, each	30 "
Extract of opium	8 "
Lard	12 drachms.

This ointment is recommended for use in cases of orchitis, to be applied night and morning, also, applied along the course of the urethra, to promote the absorption of surrounding deposits in cases of gonorrhœa.

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Original Communications.

ON THE SURGICAL DISSEMINATION OF CANCER.*

By A. G. GERSTER, M. D.,
NEW YORK.

THE subject in question, not being mentioned by the authors of text-books on general and special surgery, and unknown in periodical literature, seems of sufficient importance to deserve consideration. The present essay is an *a priori* consideration of a possibility or probability occurring in the course of the development and treatment of cancer; an outline of a train of thought based on clinical observation, that may deserve more extensive study in the future.

The subject-matter itself is not strictly new, observations bearing upon it having been made and published from time to time in an unconnected manner. The leading idea of this essay was originated in the year 1877 by observing the course of a striking case of rapid dissemination of cancer. Since then a number of other cases have accumulated tending to confirm those first impressions. When, finally, Czerny's observation (published in 1883) and König's remarks on operative dissemination of tuberculosis (both published in the "Centralblatt für Chirurgie," 1884) appeared, the interest of the author was quickened by their strong confirmatory, though indirect, evidence.

They both, like the author, did not advance anything absolutely new, as everybody knows that many patients operated on for joint-tuberculosis died subsequently, and soon after the operation, of meningeal or other forms of disease. But they drew attention to the fact that the *post hoc* might be in many cases also a *propter hoc.*

The author's case in question was as follows:

I. A., an aged lady, of robust health and a cheerful disposition, presented herself for treatment on account of an elevated ulcer of the outer margin of the sole of her right foot. It had existed for over thirteen years, growing very slowly, until it had attained the size of three inches by two inches and a half in diameter. It was segmented, each segment showing a distinct epidermidal margin, the edges of the ulcer somewhat overlapping the normal skin. While open, the purplish-red ulcer discharged large quantities of a clear serum, but, if the patient refrained from walking, it readily cicatrized over, to become sore again on her using the foot. Previously the pain or inconvenience had been very slight, nor were any glands infiltrated. Lately, however, the sore had become very painful.

Excision was proposed, and carried out in the autumn of 1877, when the base of the new growth was found to be attached to the plantar aponeurosis, which accordingly had to be removed too. The wound healed rapidly by granulation. The diagnosis of granuloma made previous to the operation, and based upon the benign development of the disease, was confirmed on microscopical examination made by Dr. I. Adler, of this city. A favorable prognosis was expressed, and the patient was encouraged to use her foot. Immediately upon cicatrization being completed, a number of small, purplish, pigmented nodules made their appearance in and about the scar, and well up the leg, increasing daily in number and size. Any doubts about the formidable character of the new growth were dispelled then, and a high amputation of the thigh was at once proposed to, but declined by the patient, who, however, finally submitted to the operation in May, 1878. A mass of enlarged glands was also removed from below Poupart's ligament. Both wounds healed by the first intention, but the operation did not delay the patient's impending fate. A few days after the removal of the limb the patient inquired about the significance of a disturbance of vision which she had noticed for four weeks, but, in her excitement preceding the amputation, omitted to mention to the author. It will suffice to say that a retro-bulbar node, causing first diplopia, finally protruded the eyeball from its socket in a frightful manner, and that the entire body of the patient became covered with innumerable nodes and nodules in an astonishingly short time. The patient's death by suicide fitly closed the tragedy, which did not fail to make upon the author a deep and lasting impression. Post-mortem examination revealed that all the organs, especially the viscera, were permeated with thousands of nodules of pigmented cancer.

Undoubtedly, then, we must have had originally a true granuloma, which at the time of the first operation was undergoing the not unusual change into cancer, some portions of the tumor then removed still presenting the characters of a connective-tissue growth, as Dr. Adler's examination had proved. But is the fact of this change of a benign into a malignant neoplasm alone sufficient to explain its astonishingly swift dissemination? Certainly not, as all processes of dissemination observed in malignant new growths, local and systemic, are notoriously slow, and not to be compared with that in the foregoing case. By "slow" is understood a spread in "*étapes*," as the French say, or marches, to use a strategical term. That is, a modus which is not continuous, but interrupted, and is characterized by well-defined phases of activity and seeming rest.

First comes the simplest and most immediate spread *by contact* with neighboring tissues, which generally lasts for a considerable time, but soon is followed by the second phase—that is, that of the infection of the pertinent *lymphatic vessels and glands.* These serve as a barrier for a certain period of time, till, a large vein becoming involved, transplantation by embolism extends the disease to one or more rather distant organs. This last one would form the *third*, or *generalizing* phase of infection.

In the case related to you, local and general dissemination seem to have taken place simultaneously, and in a manner closely resembling certain physiological and pathological experiments performed on animals, where substances capable of multiplication are injected into the parenchyma or directly into the circulation. The assumption of a mechanical rapid distribution of the infective bodies is almost imperative, and this rapid mechanical distribution of the infective elements may have been accomplished by the manipulations involved in the performance of the operation.

Observations similar to, if not as striking as, the one related, have multiplied in the experience of the author, extending over forty cases of amputation of the breast done since the year 1878, and the practice of every busy surgeon must yield a not inconsiderable number of instances of the same character. As none of the cases of this character possess the elements of proof positive, it would be unnecessary to weary your patience by records of similar cases, but it is important to tell you that the practical wisdom of an older generation of surgeons has impliedly admitted the truth of our assumption by advising amputation of an extremity affected by what was then termed "cancer," in preference to a mere extirpation of notoriously malignant growths. And the value of this advice is twofold: first, it more surely eliminates all foci of disease than an excision, however comprehensive; and, last, but not least, the field of operation being more or less distant from the seat of the disease, handling of the tumor and manipulative dissemination of its elements are less likely to occur than otherwise.

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* Read before the New York Surgical Society, February 8, 1885.

Now let us consider what amount of force and energy is employed in the handling of tumors by physicians, and whether this handling does not possess some or all the characters of that form of manipulation which the French denote as "massage."

A careful physical examination of the tumor, especially if made by the aid of anæsthesia, will be, and notoriously is, frequently accompanied by the use of a good deal of necessary or unnecessary force. The handlings or manipulations ordinarily in use during the performance of bloody operations on tumors to be dissected out of surrounding tissues have positively the character of massage, and occasionally a very rough form of massage, too. And the employment of anæsthetics has certainly not had the effect of increasing the gentleness of operative interference. Suffice it to say that the manipulation employed on a tumor of the breast and the lymphatic glands occupying the adjacent axillary cavity, during an operation lasting one or two hours, certainly may have the dignity of a manipulative *séance.* And all of you know that a skillful massage of thirty minutes will often cause a massive extravasation of blood to disappear from the vicinity of a sprained joint, and that three or four sittings may dispel the largest part of a solid infiltration of an inflammatory character from this or that part of the body. Now, just bear in mind how many formed corpuscular elements, be they cells or broken-up portions of a firm clot, must be propelled through the lymphatics and veins into the general circulation at each massage, and the idea of the probability of the propulsion of cancerous elements of an unfixed, minute (that is, embryonic) character, and situated especially in recently involved places about the margins of a tumor, is very plausible indeed. The analogy of these artificial processes is *a priori* evident, and the fact that mechanical irritation—that is, another form of massage—favors the spread of malignant disease, stands fully in accord with this assumption. Finally, it seems appropriate to adduce here Billroth's authority as a pathologist in these his words: "I consider it most highly probable that both the continuous and the discontinuous spread of carcinomata are effected (*vermittelt*) by the dissemination of corpuscular elements, but admit that, so far, we are unable to prove this in all cases." *

The author does not wish to have it understood as though he considered this mode of dissemination the rule, but he believes that in a number of cases of malignant disease operative treatment may hasten rather than retard death. This statement seems to contradict the results of statistical investigation as laid down by such authorities as von Winiwarter and Gross, whose meritorious works are well known to all surgeons.

But this contradiction is partial only, and is justified by the nature of statistical results in general, which we know are arrived at by summing together cases widely different in character, though all representing the same disease.

Our critical attention will necessarily be first directed to the comparative estimates by averages of the duration of life of patients operated on for cancer of the breast and patients not subjected to operative treatment.

Here we see that Winiwater finds the average duration of life from the beginning of the disease of the patients operated on to be about 39·5 months, whereas that of patients left to their fate is almost 33 months. The former, accordingly, live on an average about six months and a half longer than those not coming under the surgeon's knife.

On further examining the figures it will be remarked at once, that the number of observations of non-operated cases is very small as justly compared with those operated on, one being 97, the other 519. Take into consideration, furthermore, that many, if not all, of the non-operated cases were subjected to all manner of irritative treatment, greatly influencing their rapid development and dissemination; finally, that many of them may have been such as show a formidably malignant character, deterring even the boldest operator, and it will be easy to comprehend that the rate of mortality as calculated for these 97 cases is unreliable and too high if applied to all cases of unoperated cancer, many of which, not being very malignant, did not come under operation at all. But let us analyze the class comprising those subjected to operation. Here we find that somewhat over *nine per cent.* of the cases were permanently cured by the operation. They necessarily must have been those in which a complete removal of all diseased tissues was successfully accomplished. It is of the utmost importance to note that such a thing is possible under certain most favorable conditions, offered by an early and very thorough operation upon a not extensive tumor of comparatively slow growth. Clinicians know and admit differences of infectiousness in cancers, which depend upon a more or less rapid growth, and accordingly upon a greater or less proportion of succulency attributable to more or less embryonic, non-fixed, or movable tissue components or corpuscular elements. Their anatomical expression is a greater or lesser proportion of *cancer juice*, as produced by scraping of their cut surface with a scalpel.

To go back to a former comparison, we may say that, as the corpuscular or liquid elements of a recent succulent inflammatory infiltration are more easily dispersed by massage, so will the elements of a succulent cancer be more prone to be dispersed by mechanical factors, and we may add that their rapidity of reproduction also stands in direct proportion to the ease with which they are dispersed. This relationship suggests resemblance to a geometrical progression, and may serve to explain the enormous differences of malignity observed in cases standing at the foot and at the head of the statistical scale respectively. Gross mentions a case that terminated fatally without operation at the expiration of five months. Billroth gives the history of one in which the patient lived for twenty years.

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* "Deutsche Chirurgie; Krankheiten der Brustdrüsen," p. 112.

To return to the cases cured permanently, we may say that a few of them may have been very malignant ones, operated upon very early and very radically, but that most of them were not very malignant and were subjected to a very radical operation; finally, that in all of them up to the patient's death from other diseases no formation of cancer *de novo* had taken place. (It is still a mooted question whether even a regional recurrence of cancer three or more years after operation is a continuation of the old process, or a new disease *per se.*)

The large majority of the three hundred and sixty-eight cases operated upon, that is, nearly eighty-one per cent., showed recurrence. In eleven and a half per cent. of the three hundred and sixty-eight cases recurrence took place after twelve months; but it does not appear in what manner or where. It would be important to find whether the general character of these recurrent tumors was mild or severe, local or general, and what was their microscopical nature (succulent or firm and dry).

Presumably these were mostly tumors of not great malignancy or of a slow growth, incompletely removed, yet so that very few cancerous elements were left behind to multiply.

It may be pertinent here to mention the curious fact, though no explanation of it is ventured, that seemingly infected glands have been seen to disappear after the removal of the primary tumor in such cases even where the knotty, hard nature of the glandular swelling fully justified the assumption of its cancerous character.

Within three months sixty-three per cent. of the cases relapsed, forty-three per cent. within *four weeks*, and nineteen per cent. even before the lapse of a *fortnight.*

In about eighty-two per cent. of one hundred and ninety-four cases of recurrent cancer where this point was noted, the locality of the relapse was in the cicatrix, in the remains of the mamma or in its vicinity, and in the glands.

These figures are appalling; they show that in almost two thirds of all cases operated upon relapses are established within three months after the operation. Undoubtedly the great majority of these cases represent very incomplete operations, where already disseminated portions of the neoplasm were left behind, either in the vicinity of the primary growth or in or about infected lymphatic vessels and glands. The cases relapsing within four weeks (43 per cent.), and still more so those recurring within a fortnight (19 per cent.), must be those in which either grossly incomplete operations were performed, or artificial operative dissemination took place, or finally where both of these occurrences combined to cause a rapid involvement of hitherto seemingly healthy tissues. We have to add, finally, while treating of this group, a class of cases characterized by Billroth in the following words: "Cases operated on under seemingly very favorable circumstances—in which, however, the patients are already victims of internal carcinosis, this becoming evident on post-mortem examination made soon after the operation—are, unfortunately, *not very rare.**

Of course the occurrence of such cases can not be gainsaid, but, considering the gradual extension of cancer observed as a rule, such an infection by a jump, as it were, must nearly always be caused by mechanical factors. By these are meant either a build and arrangement of the lymphatics unusually favorable for the easy transmission of corpuscular elements, or a very energetic and effective external agency, such as a traumatism, or massage, or long-continued compression, or all of these combined.

But, to return to our subject, we will say that von Winiwarter does not state whether a change in the character of the malignancy of these neoplasms was observed or not on their recurrence after operation. And herein all observations are strangely defective, and unfortunately so, as this seems to constitute the nodal point of our inquiry. If it were shown that in a certain number of tumors of previously slow growth a fast and extensive *local* recurrence took place immediately after a comprehensive and thoroughgoing operation, performed by a competent and experienced surgeon, it would be necessary to assume the concurrence of a factor hitherto unknown, even unthought of. And if the marginal portions of the removed tissues were found, on careful and exhaustive examination, to be entirely free from such miliary foci of cancer as can be detected by the microscope, the presumption of a direct influence upon the nature and course of the disease by the operation would be almost imperative.

Older surgical writers directly admit the possibility of such an influence; modern authors, as, for instance, Billroth and Volkmann, only by inference; and their reticence in this respect is easily explained by the lack of a sufficiently large sum of observations collected with a view to the ascertainment of this very point, and by the necessity of questioning the correctness of the generally accepted assumption that the operated cases show a much longer average duration of life than those let alone.

Let us now examine what this peculiar "influence" of operative or other mechanical irritation upon a cancerous growth may consist in. Excluding chemical irritation, and considering only forms of irritation looked upon as more strictly mechanical and akin to massage, we find that this influence may be twofold. On the one hand, it may induce active hyperæmia, a better nutrition of the tumor, and hence a more rapid multiplication of existing elements *in situ*. On the other hand, and following from the first, it will increase the activity of the lymphatics, and fitly prepare them for the reception and transmission of mobile cancerous elements. Finally, the changing degrees of pressure from different sides, and its intermittent character, will not fail in suitable cases to propel such cancerous elements to a shorter or longer distance; and, if the form of mechanical irritation is constant or frequent, a large area of the surrounding tissues may become injected with cancerous elements in a comparatively short time. Supposing that all this takes place during an operation, followed by unavoidable stimulation of the tissues thus infected incumbent upon the processes of repair, what wonder if we see a large number of small nodes appear in and about the cicatrix left after the removal of a solitary tumor, and within a few weeks after the operation?

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* *Loc. cit.*, p. 117.

Instead of assuming a mysterious, indefinable change in the character of the new growth, it is more rational to explain a natural process by natural and well-known biological laws. It may be objected that all operations followed by a rapid and wide-spread reappearance of the disease about the sites operated on must be those in which pre-existing foci of cancer were unwittingly left behind by the operator. Admitting, as we have done before, that a large number of cases are covered by this explanation, yet we may reply to this with the following question: What is the reason, then, of the simultaneous appearance and rapid growth of a large number of cutaneous foci shortly after the operation on a formerly slowly growing tumor? Why do these foci remain dormant, or grow imperceptibly until the time of the operation, and suddenly come forward in an unmistakable manner after the traumatism of an operation? And there is not only a spread, there is frequently also an increased rapidity of the multiplication of the elements, an increased malignity denoted as a *change of character*. And why this? Our explanation seems to cover these questions.

Besides, it is not impossible that young cancerous cells, sown, as it were, in new soil, well prepared by an increased blood-supply due to the healing process, will thrive much better in this unexhausted, well-irrigated ground than elsewhere.

Of course all this does not prejudice the acceptance of the fact that positively benign tumors do change occasionally into malignant ones, but it seems that this important mechanical factor in the growth and dissemination of cancer ought to receive some recognition.

The author has begun a series of experiments tending to prove the possibility of mechanical or surgical dissemination. But the results of the investigation of the subject have not matured yet for publication. Before completing this paper it may be appropriate to point out in a few words its practical bearings.

It is not intended to question the general correctness of the advisability of operating even in far-gone cases of cancer. On the contrary, it is hoped that by pointing out one more danger we may be taught to avoid this also, and thereby the results of operative measures in this field may become better. Antiseptic treatment has here, too, undoubtedly stimulated active surgical interference, and, though the author's material includes only thirty-four cases of malignant tumors of the breast operated upon radically—that is, in which the breast and the axillary contents were removed, and six partial operations, with no deaths resulting from the operations—this may justify the conclusion that antiseptic measures must have generally depressed the death-rate of 16·5 per cent., as given by Winiwarter.

Nothing need be said about the necessity of early operations, and the very radical, extensive removal of a wide zone of seemingly healthy tissues surrounding a cancroidal tumor. If the neoplasm is on an extremity and is extensive, the preference should be given to an amputation done far away from the disease. Wölfler has conclusively shown on animals that, during the time that Esmarch's constriction is applied to a limb, the veins and lymphatics beyond the constricting band are inactive, and do not absorb even soluble substances, and that these do not enter the ostia of the vessels opened by the surgeon's knife as long as the constriction lasts.* It seems to be rational, then, to always employ Esmarch's constriction while excising malignant tumors situated on a limb, since it is improbable that corpuscular elements would be propelled where there is no medium, such as blood or lymph, to carry them along. In examining any kind of tumor, the utmost gentleness should be observed, and obscure points in the diagnosis not bearing upon the therapy should rather be left undecided till after the operation. Unnecessary handling of a suspicious tumor should be discouraged, and the patients especially warned against so-called abortive methods of treatment, as these are, painting with irritating chemicals, and especially the several forms of compression, constant or interrupted.

As a preparatory measure, the hyperæmia and cell-activity of a rapidly growing tumor should be reduced as much as possible by the constant application of ice, or the water coil, for several days preceding the operation, as it is notorious that the growth of some tumors has been noticeably retarded by the influence of low temperatures.

During the exsection of deeply imbedded tumors all rough handling, pulling to and fro, should be avoided as much as possible. This may be very difficult in cases of large, heavy tumors, or where it is necessary to work in a deep, non-dilatable wound, wherefore the proposal of an English surgeon to fasten into each tumor, after its exposure, a sharp hook attached by rope and pulley to the ceiling of the operating-room, seems to be very appropriate. One assistant can easily raise or lower even a very large tumor by traction applied to the rope running through the pulley, while the surgeon himself, holding the shank of the hook, can carry out without fatigue such lateral movements as become necessary in the course of the operation. This would deserve a trial, especially in amputations of the female breast. For self-evident reasons the axillary fat should be invariably removed, and in one mass, this being much easier and safer than the digging out of single glands The operation should be begun, if possible, with the evacuation of the axillary space, and its contents, together with the breast and the intervening tissues, should be removed in one piece.

Primary union of the entire operation wound should be always aimed at where possible, since suppurative processes and the increased reproductive activity of the tissues depending thereon tend to cause an early development of such cancerous elements as may have been left behind.

The view that non-destructive suppuration may eliminate such cancerous elements has no support in pathology. The surgeon should rather use his knife freely than invoke the aid of such a treacherous ally as suppuration.

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* "Archiv. für klin. Chirurgie," 27 Band, p. 413.

THE PROTECTIVE TREATMENT OF OPEN WOUNDS.*

By THEODORE R. VARICK, M. D.,

MEDICAL DIRECTOR OF, AND SURGEON TO, ST. FRANCIS'S HOSPITAL, AND SURGEON TO JERSEY CITY CHARITY HOSPITAL, JERSEY CITY, N. J.

In compliance with an invitation from your Executive Committee, received through your honored president, that I "favor the association with a paper on some surgical subject," I appear before you this evening.

It is not with the expectation that I shall be able to instruct so learned an assemblage, but with the hope that possibly what I have to offer may prove sufficiently interesting to merit your attention.

If the ideas thrown out should appear sacrilegious in questioning the divinity of certain Lares and Penates which have received the blind and unqualified adulation of many within the domain of surgery, I would simply say that they are not the inspirations of a moment, but the culmination of convictions forced upon me by long and extensive observation.

The subject I have chosen for discussion is the "Protective Treatment of Open Wounds."

The risk to human life from severe operations and injuries are: 1, From shock and hæmorrhage; and, 2, from sepsis or grave constitutional effects dependent upon the introduction into the body of poisons which, by their overpowering action, may prove destructive to the individual.

From time immemorial it has been the aim of surgeons to minimize the dangers of the first, and obviate the possibilities of the second.

At the present day the doctrine held by a large majority of observers favors the idea of the potency and influence of atmospheric germs in the production of sepsis.

Resulting from this belief, the aim has been, and is, to protect the open surface of wounds from the contact of floating particles, which, finding ingress through the open stomata of capillaries, lymphatics, etc., fructify and increase until the system succumbs to their influence.

From a surgical standpoint, in a person otherwise healthy, for the admission of atmospheric germs it is necessary that there should be a solution of continuity, in order that the means of ingress mentioned above may be exposed.

It may be assumed that any method of treatment which hermetically seals and covers up these stomata, and which is free from the objection of any poisonous influence on the part of the agent employed, is the best.

As before suggested, the open stomata of the vessels would seem to offer special opportunities for the introduction of atmospheric germs, and the imbibition of any extraneous poison, gaseous or fluid.

Such would be the case were it not that the flow outward—which occurs at the time of the infliction of the wound and continues for a greater or less period thereafter—of the fluids washes away any foreign substance which may lodge on the abraded surface.

From arteries and arterioles there is an accelerated current, from the veins and venules a reversed current, and from the lymph-spaces also an outward flow—all exerting a conservative influence and a temporary protective power.

So long as these exudations occur, the patient is safe from contamination from without.

The appearance of an open wound is thus described by Paget in Holmes's "Surgery," vol. i, p. 629: "And if the wound be left open after pure blood has ceased to flow, there is an oozing of blood-tinged, serous-looking fluid, some of which collects like a whitish film or glazing on the surface of the wound."

This is really blood serum, gradually becoming transparent, as the arterioles contract to a degree preventing the passage of blood corpuscles, but allowing the exudation of serum.

Flint, in his work on the blood, p. 143, says: "The serum contains all the elements of the blood except the red corpuscles and fibrin, which together form the clot." Again, at p. 146: "It contains all the principles found in the plasma or liquor sanguinis, with the exception of the fibrin."

This exudation is largely albuminous in its character, and it is this element which we have to consider.

According to the same author, "albumin retains its fluidity out of the body until heat or some coagulating agent is applied." (*Ibid.*, p. 157.)

In addition to heat, it is coagulated by the mineral acids and metallic salts.

The coagulating property possessed by albumin under the circumstances indicated forms the basis of treatment proposed.

In a coagulated state it covers the face of the stump or surface of the wound, forming a perfectly fitting, impenetrable shield, plugging up every capillary stoma; when heat is the agent employed, constringes every arteriole and venule; and, if applied before the outward flow from the divided vessels has ceased, makes the patient absolutely safe from any septic infection from without whatever.

This may seem a sweeping assertion, but it is one based on a large and varied experience in hospital as well as in private practice.

Although it is hard to prove a negative, yet, after an observation of its effects for a period of nearly six years, I have to meet with the first case of septicæmia in my practice.

It seems to me that the vaunted claims of corrosive sublimate and carbolic acid as antiseptics are due to the power possessed by both of these agents of coagulating albumin.

I shall not occupy your time with an enumeration or discussion of the various so-called antiseptics in use, but simply allude to the positive objections to the employment of those mentioned.

Although a great measure of success has attended the use of the former, the possibility of constitutional effects, indicated by the supervention of irritation of the gastro-intestinal mucous membrane, should not be lost sight of.

Several cases have come under my observation in which severe tenesmus followed its use as a dressing.

Again, Sir Joseph Lister, in an address on corrosive sublimate as a surgical dressing, delivered at the opening meeting of the Medical Society of London, October 20, 1884, after citing a case of amputation of the mamma in which he used a 1-to-500 solution of corrosive sublimate, remarks: "On the following day, when we changed the dressing, I found that under the oiled silk, exactly corresponding to its extent, the skin was highly irritated and was covered with small vesicles. I also found that the inner side of the arm, where there was no wound, was in the same state of intense irritation." He further remarks: "While this case showed that in the sublimate we had an agent that might give very beautiful results, it also indicated that we were dealing with au edged tool, which, while it might do admirable work, was very apt also to cut our fingers."

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* Read, by invitation, before the New York County Medical Association, February 16, 1885.

According to Bartholow ("Materia Medica and Therapeuties," p. 511), "applied to the integument, carbolic acid is absorbed and systemic effects follow; the urine becomes smoky."

A case in point is reported by Dr. H. B. Sands, occurring during his term of service at the New York Hospital: "This patient had been subjected to the operation of amputation of the thigh for ununited fracture of the femur. For five days after the operation the urine was green in color, an effect due to the absorption by the wound of carbolic acid, used in accordance with the antiseptic method of operating." ("Med. Record," vol. xx, p. 151.)

In the discussion on a case reported by Mr. A. Pearce Gould at a meeting of the Clinical Society of London, held March 28, 1879, of amputation of the hip joint, in which death was the result, the thrombosis, which was the cause of death, was attributed to carbolic-acid poisoning. (London "Lancet," Am. ed., 1879, p. 563.)

From the "Index-Catalogue of the Library of the Surgeon-General's Office, U. S. Army," and also from the "Index Medicus," I glean the records of the following cases:

"Injurious Effects of Carbolic Acid from Injudicious Local Applications," by J. S. Hughson. "Med. and Surg. Reporter," Philadelphia, 1879, xxvii, 492.

"Gangrene following the External Use of Carbolic Acid," by J. D. Kelloch. "Canada Lancet," Toronto, 1877, ix, 195–197.

"Gangrene produced by the dressing of Wounds with Carbolic Acid," by Tillaux. "Bull. gén. de thérap.," etc., Paris, 1871, lxxxi, 275.

"Acute Carbolismus by Peritoneal Absorption," by Rheinstadler. "Deutsche med. Wochenschr.," Berlin, 1878, iv, 191.

"Fatal Poisoning by Carbolic Acid used as a Remedy for the Itch," by R. Köhler. "Med. Cor.-Bl. d. Würtemb. ärztl. Ver.," Stuttgart, 1872, xlii, 41–49.

"Fatal Cases of Poisoning by the Absorption of Carbolic Acid," by E. S. Machin. "Brit. Med. Jour.," London, 1870, i, 331.

"Two Cases of Poisoning by the External Application of Carbolic Acid," by P. Moloney. "Austral. M. J.," Melbourne, 1872, xvii, 73–77.

"Death from the External Application of Carbolic Acid," by E. Sandwell. "Brit. Med. Jour.," London, 1870, ii, 382.

"Death from the External Application of Carbolic Acid," by R. Willis. "Brit. Med. Jour.," London, 1868, i, 314.

"Poisoning by Carbolic Acid injected into an Abscess," by Alfred C. Post. "Med. Rec.," 1879, xv, 378.

"Death from Carbolic-acid Poisoning following Hyperdistension of an Abscess with a Carbolic Solution," by E. H. Bradford. "Boston M. and S. Jour.," 1881, civ, 324.

"A Case of Antiseptic Osteotomy of the Tibia in which rapidly Fatal Carbolic Intoxication occurred," by A. Pearce Gould. "Tr. Clin. Soc., London," 1881, xiv, 201–210.

"Poisoning by Carbolic Acid in an Enema," by O. Meclin. "Hygeia," Stockholm, 1883, 125–130.

"Paralysis of the Bladder following the use of Phenic Acid as a Dressing for Wounds," by A. Cartoiz. "Gaz. méd. de Paris," 1884, t. s., i, 496.

The experiments of Dr. H. G. Beyer, U. S. N., on the hearts of the terrapin and frog, show that "carbolic acid, in small as well as large doses, acts as a depressant on the heart from first to last, reducing its rate, its work done, and the blood-pressure." ("Proceedings of the Naval Medical Society," also the "Journal of the American Medical Association," vol. iii, p. 438.)

These possible effects, stated by so able and distinguished authors and clinicians, are not to be lightly estimated, especially as many patients after undergoing a capital operation have but a small margin of vitality remaining.

It is bad surgery to subject a person to present risk for the purpose of avoiding a possible remote contingency.

I think, from the authorities and cases cited, that there is sufficient evidence shown that both of the agents considered are liable to exert their toxic effects on the system, and are therefore unsafe.

The question naturally arises as to what means we have at command which, while forming an absolute protection against the ingress of septic influences into an open wound, is free from the objections mentioned.

My practice is, and has been for nearly six years, immediately the larger vessels have been tied, to apply water (slightly below the boiling point) freely and continuously to the abraded surface until all oozing is stopped, the parts are thoroughly glazed, and the red line of the tissues is slightly deadened.

The effect is not only to form the protective shield before mentioned from autogenous material, which is always available, but it mitigates shock, it promotes reaction, and accelerates healing in a marked degree.

In a paper "On the Causes of Death after Operations and Grave Injuries," which I had the honor to read at the first annual meeting of the New Jersey Academy of Medicine, June 16, 1875, I used the following language:

"The condition of shock may continue for a greater or less period, during which the patient may sink, or, rallying therefrom, pass into a gradual and progressive recovery; or, again, after having apparently recovered from the first impression, the pulse becoming more rapid and feeble, with slight increase of temperature, and in some cases no perceptible alteration in this respect, with occasional moderate delirium, and a sense of præcordial oppression, may die, apparently without any assignable cause.

"This condition has been variously characterized as secondary or consecutive shock, and is one which should excite our gravest solicitude."

It is under these circumstances that the stimulating effect of heat transmitted to the heart is most marked, and the action of any depressing agent exhibits its baneful influence on an already weakened circulation.

Before I adopted the method of treatment under consideration many patients died, after apparent reaction from primary shock, in the manner described above. Since its adoption, no death from either primary or secondary shock has occurred in my practice.

My connection with St. Francis's and the Jersey City Charity Hospitals, in which a large majority of the major operations are for the relief of injuries inflicted by railroad accidents, has afforded special opportunities for observing the immunity which patients enjoy from hospitalism on the one hand, and the rapidity and permanency of reaction on the other, when treated by this method.

The merits I claim for the method of treatment just considered are:

1. Simplicity.
2. Availability.
3. Safety.
4. Invulnerability.

At my request, for the purpose of testing the protective power of albumin in a coagulated state, the following experiments were made by my friend, Mr. George W. C. Phillips, an accomplished chemist of Jersey City:

"October 13, 1884, I took twelve test-tubes which were carefully cleaned, heated to a red heat, and inverted to prevent the lodgment of any foreign matter. When cool, six were filled about two thirds full with freshly prepared beef-tea. They were then placed in a bath of boiling water. Five were covered with linen, previously prepared by coating with blood serum subjected to heat in a hot-air bath for the purpose of coagulating the albumin.

"The tubes were then removed from the bath, together with one which was left open as a check.

"They were all placed on a shelf in a drug store, subjected to the ordinary atmospheric impurities met with under such circumstances.

"Of the other six tubes, five of them were covered with the same linen as the others, but not coated with the serum. One was left open, as in the preceding series.

"Within twenty-four hours the beef-tea contained in three of the tubes covered with the uncoated linen became milky and turbid, and within forty-eight hours the contents of the remaining tubes were manifestly decomposed. The contents of the open tubes showed much earlier signs of putrefaction.

"The beef-tea contained in the tubes with the coated covering is at this date, a period of over four months, perfectly clear and limpid. After the linen had been coated with serum in the hot-air bath, it was dipped into hot water and immediately applied to the tubes.

"January 21, 1885, seven test-tubes were prepared as in the former experiments, all of which were filled with beef-tea. Six were covered with linen prepared as in the first series. As before, one was left open as a check.

"Within twenty-four hours the contents of the open tube were loaded with bacteria, and had assumed the milky appearance indicating decomposition.

"The contents of the remaining tubes at this date remain perfectly clear, showing that the ingress of foreign particles has been absolutely prevented."

In conclusion, I wish it to be understood that this paper has been written as supplementary to one on railroad injuries, etc., read by me before the Surgical Section of the American Medical Association, at its meeting in Washington, D. C., May, 1884, for the purpose of considering more fully what was then in a cursory manner mentioned—viz., the application of hot water as an important factor in the successful treatment of open wounds.

REPORT OF A CASE OF LIGATURE
OF THE
RIGHT PRIMITIVE ILIAC ARTERY
FOR DIFFUSE ANEURYSM OF THE EXTERNAL ILIAC;
DEATH FROM PYÆMIA ON THE TWENTY-FIRST DAY.*

By JOHN W. S. GOULEY, M. D.

M. McM., twenty-two years of age, a laborer, was admitted to Bellevue Hospital on the 8th of October, 1871, suffering from a painful, hard, but elastic pulsating tumor of the right inguinal and iliac regions, extending six inches above and two inches and a half below Poupart's ligament, and two inches and a half to the left of the median line, clearly marked in outline and evidently intra-abdominal.

The history of his case, given by the patient, was as follows: About two years before his admission to the hospital a barrel of lime had rolled against him, inflicting a contusion in the neighborhood of the right inguinal region. Soon after this injury he contracted urethritis, and also a chancre, followed by an enlarged inguinal gland which soon subsided without suppuration. No constitutional symptoms ensued so far as he knew, and none were apparent when he applied for treatment on the 8th of October, 1871. Nine months before his entry into the hospital he noticed a tumor in the right inguinal region above Poupart's ligament. In three months after it was first noticed the tumor had attained the size of a hen's egg, and he then observed for the first time that it pulsated. In another period of three months it had very greatly increased in size, and, two months before his admission to the hospital, it had nearly attained its dimension noted on the 8th of October, 1871. The man continued his work of handling and sometimes even lifting barrels of lime, until the tumor had become very painful; not till then did he apply for treatment at the hospital. The pain was seated partly in the region of the tumor—and there it was of a burning character—but mostly in the course of the anterior crural nerve, as far down as the knee, from compression by the tumor.

In the physical examination of the case various tests were employed, among them that of placing at the summit of the tumor a square bit of white paper with one of its corners turned up. By this simple and well-known expedient the pulsations were rendered very distinct from a considerable distance (an excellent device for demonstration in a large amphitheatre). By palpation and compression the heaving of the whole tumor and its pulsation were made still more certain, while auscultation revealed the existence of a well-marked bellows murmur. The integument overlying the tumor was dark-colored and œdematous. The discoloration was believed to be due to rupture of the aneurysmal sac, the foregoing facts having led me to the diagnosis of traumatic aneurysm, and now of diffuse traumatic aneurysm, of the external iliac artery. There was slight pulsation of the anterior tibial, but none of the posterior tibial or femoral arteries. The patient was somewhat emaciated, but had no apparent lesion of the thoracic or abdominal viscera. On the 12th of October it was noticed, even by the patient, that the tumor had markedly increased since the 8th of October, and he said also that his pain was much worse, although he had taken a free dose of morphine. Besides, the local heat was greater than it had been for the three days past, and the rapid downward progress of the patient compelled immediate surgical interference. At a consultation with my colleagues, I proposed, as the only chance for the patient's life, ligature of the primitive iliac artery (and, if necessary, of the common femoral), to be immediately followed by free incision of the aneurysmal sac, in order that the blood clots might be removed and the whole cavity of the aneurysm cleansed. The gentlemen all agreed with me as to the necessity of ligature of the primitive iliac, but would not consent to any form of disturbance of the aneurysmal sac, and I yielded to their objection without, however, changing my opinion in relation to the propriety of incision of the sac, so warmly advocated by one of the best and wisest authorities of the early part of this century, and so successfully executed by Professor Syme in our own time.

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* Read before the New York State Medical Association, November 20, 1884.

Operation.—On the same day, October 12, 1871, ether was administered to the patient in the usual way. The size and configuration of the tumor rendered the operation more than ordinarily difficult, and, for greater safety, it was thought necessary to adapt the course of the incision to the requirements of both. Before, however, I proceeded to cut, a trusty assistant was notified to be in readiness to compress the abdominal aorta manually in case the sac should suddenly burst when exposed. This provision made, I began my incision at the lower border of the tenth rib, in a line drawn from the center of the axilla to a point on the level of the anterior-superior spinous process of the ilium, and one inch nearer to the median line of the body than this bony process. This was the general course of the slightly curvilinear incision, which was nine inches in length, except the lower two inches, which formed an arc of a much smaller circle and took an upward and inward direction in the discolored portion of the integument. The object of this deviation in the line of incision was to permit greater retraction of the skin and underlying tissues, and thus afford more space to expose and reach the main artery. A few superficial bleeding vessels were secured, then the incision was extended through the oblique and transversalis muscles, and also through the fascia transversalis, bringing into view the subperitoneal connective tissue. After separating, with the fingers, the peritonæum from the transversalis fascia, retraction of the wound and protection of the tumor and peritoneal contents were effected, partly by one hand of an assistant, partly by means of a steel spatula about three inches broad (the same spatula that had been used for a similar purpose by the late Dr. Valentine Mott, and skillfully employed on this occasion by his son, Dr. A. B. Mott). By this large wound and very efficient retraction the artery was brought into view for one inch of its length. Nevertheless, it was somewhat difficult to pass underneath this vessel, from within outward, the Mott artery-needle, which was armed with a stout silk ligature, but the step was successful. Before knotting the silk, I made a careful examination, to be sure that the ureter or the iliac vein was not included in the embrace of the ligature, which was then securely tied. From that moment the pulsation of the tumor ceased. The wound was then cleansed, its edges were stitched, and the dressing was completed by the application of strips of adhesive plaster, layers of cotton, and a retentive bandage. The whole limb was swathed in cotton, and bottles of hot water were placed on either side. The operation was concluded in the space of thirty-two minutes. A hypodermic injection of ten minims of morphine solution was administered before the patient had recovered from his state of anæsthesia, and, when he did recover his senses, stimulants were given him in small and often-repeated doses.

On the 13th of October, in the morning, the pulse was 128 and full. A dose of aconite was given. In the afternoon the tumor had already softened and the crural neuralgia had vanished. The temperature of the affected limb was greater than that of the sound side.

On the 14th the pulse was 130 and full. There was little, if any, pain. He slept well, but had no inclination to eat. The tumor was softer and decreasing in size. The discoloration of the skin at the seat of operation had lessened. From the first day evacuating catheterism of the urinary bladder had been necessary, but on the third day he urinated spontaneously.

He had, during the night of October 14th, a sudden attack of diarrhœa, which was, however, quickly checked by a dose of morphine.

Early on the morning of the 15th his pulse was 130, and he was sweating profusely. Eight hours later he was much better; pulse 108, body temperature 102°. In the course of another hour the pulse rose to 120, and the bowels became tympanitic, though he was generally better and in good spirits, eating well and with relish. There was some discharge of pus from the lower end of the wound, but none from the upper half, which appeared to be healing. The parts were washed and covered with sheet-lint soaked in carbolized glycerin and water.

On the 16th of October the pulse was 112 and the temperature 102·75°. He had slept well all night, had no pain, and urinated normally. The adhesive strips were for the first time changed and some of the sutures removed, the upper half of the wound having healed. The lower half of the wound was unhealed, and there issued from it some sanious pus. The superficial dressing previously used was renewed. In the evening it again became necessary to use the catheter. The pulse was 112 and the temperature 101·25°. On the day following the pulse was 100 and the temperature 101°. The aneurysmal tumor began to show signs of rupture; its wall, at the lower portion and external border, had become extremely thin and black, and the overlying integument, for a space of two inches by four, was black and gangrenous. During the evening there was some febrile reaction. On the 18th of October the pulse was 102 and the temperature 101°. The lower three inches of the wound gaped widely, but the aneurysmal sac had not yet burst. The catheter was used until the 21st of October, when the patient again urinated spontaneously. On the 22d dark tarry blood first began to ooze from the sac through a small opening, and the sac was floating, as it were, in a pool of pus. The gangrenous integument, being loose, was removed by slight traction. The patient began to complain of his chest, or rather of his lungs; but nothing is stated in the notes of the case as to the precise nature of the pulmonary complaint. This respiratory uneasiness may have been due to the existence of purulent foci in the lungs, since other signs of pyæmia had already manifested themselves.

Although the patient slept well and spoke of feeling well, he appeared to be daily losing ground, and his pulse and temperature obstinately remained abnormal.

On the 24th of October the pulse was 100 and the temperature 99·5°. The area of ulceration over the tumor measured five by six inches, extending two inches below the lower extremity of the incision, and the sac began to protrude. On the 26th the pulse was 120 and the temperature 102°. He had been sleeping well, but had no appetite. I cut short the slow spontaneous enucleating process of the aneurysmal sac by introducing a finger and sweeping it around that part of the sac which was out of sight, and at the same time removed portions of sloughy muscular tissue. No hæmorrhage followed this procedure. After the sac had come away, I could, with the finger still in the cavity, distinctly feel the bladder. The tumor consisted of two sacs—the real aneurysm, which was of the size of a hen's egg, and an outer and larger sac, separated from the inner by a layer of firmly coagulated blood two inches in thickness. The cavity thus exposed was then thoroughly cleansed, and filled with picked lint saturated with carbolized oil. The removal of this foreign body seemed to give him great ease. In the evening, however, there was febrile reaction.

The diet of late had been one quart of milk and three eggs daily, and eight ounces of whisky. The internal medication consisted of quinine and aconite.

On the 27th of October he had a chill, which lasted fifteen minutes. He was placed upon a water-bed on account of the appearance of a bed-sore. The pulse was 140 and weak, and the temperature 103°. The daily allowance of quinine was then increased to thirty grains. At two o'clock in the afternoon the pulse was 120 and the temperature 102°, and at six o'clock he had a second, but severer, chill. On the 28th he had two chills, and his pulse was 128.

On the 29th of October the pulse was 124. At 10 A. M. he had a chill, and began to sink. In the evening he complained for two hours of intense pain in the heel and foot of the affected side, though ordinary sensation was abolished, and the surface was cold. Warm applications to the feet were ordered, and a dose of morphine was given. On the 30th the pulse was 124. The pain in the foot was more severe, but was afterward relieved by opium. Chill at 9 A. M. The face was cadaverous; he was fast sinking.

On the 31st of October the right ankle was ecchymosed, but not swollen. The pain in the ankle had extended to the leg, and was intense. On that day he had several slight chills.

On November 1st the ecchymosis had greatly increased. The patient died on November 2d, at 2 P. M., at the expiration of the twenty-first day after the operation.

Autopsy.—The ligature lay loose in the wound and was removed. The primitive iliac artery was completely obliterated. Nearly the whole of the external iliac had sloughed away with the sac, leaving less than an inch of its lower extremity, which was entirely closed. There was a pelvic abscess which involved the psoas muscle. The femoral and iliac veins were pervious and free from thrombi. The wound had healed to the surface except in the track of the ligature.

The relatives of the deceased having objected to a complete autopsy, the examination was consequently confined to the pelvic region.

Remarks.—The evil result of this case served to strengthen the opinion I had expressed as to the management of the sac after ligature of the artery, and reminded me of the more fortunate case of a soldier who, in 1861, received a sword-thrust in the upper part of the left arm and was brought to me a few hours after with a tumor, at the seat of injury, of the size of a hen's egg. I immediately expressed the belief that the brachial artery was wounded, and that the tumor, consisting of clotted blood, was the beginning of an aneurysm which, if left undisturbed, would eventually become diffuse. The injury being a little below the insertion of the pectoralis major muscle, pressure was applied to the subclavian artery, and I made a longitudinal incision directly through the tumor, turned out the clots, exposed the wounded artery, which I tied above and below the wound, then cut away the vessel between the two ligatures, and thus excised an embryonic aneurysm. It is fair to say that a wound of an artery is an aneurysm in embryo. The patient made a complete and rapid recovery. I believe that excision of a portion of a wounded artery is not a modern practice, but a revival, with but slight modifications, of what was long ago recommended and executed.

The particular point in the report of the case of diffuse aneurysm to which I have the honor of asking your special consideration relates to the management of the sac. It seems to me that, in the case in question, if I had carried out my intention of freely opening the sac, the chances of recovery would have been greatly increased, and that this procedure, for which we have such strong warrant, and which is in itself so simple, so philosophical, and therefore so eminently surgical, should be more insisted upon than it has been of late years. The patient was in an excellent condition at the beginning to bear the proposed operation of incision of the sac. He succumbed from pyæmia solely because a great bag of dead and decomposing blood was retained in his flank. The necrotic process was so slow that it became necessary to resort to artificial enucleation of the sac, but the foreign body had already caused damage that could not be repaired. If after ligature of the main artery the sac had been freely opened and the clots extracted, and the cavity filled with lint, I am sure that the risk of this expedient would have been infinitely small as compared with the expectant plan which was so unfortunately adopted.

If I am wrong in this view of the case, I trust that those who think so will candidly tell me why. I therefore urge that the following question be fully discussed—i. e., Whether free incision of the sac of a diffuse traumatic aneurysm after ligature of the artery or arteries by which it is supplied is, as a general rule, a proper or an improper practice?

CITY AIR AND CITY LIFE INJURIOUS TO CONSUMPTIVES.[*]

By FRANK DONALDSON, M. D.,
BALTIMORE.

After considering, gentlemen, what climates are most beneficial to the restoration of the health of consumptives, and listening to the views of those who, by observation in various localities, can give us the most accurate information on climatic influences at high altitudes and at the sea-side, let us for a few moments view the climatic and other influences of cities, where the larger proportion of persons with consumption reside.

By consumptives we mean those who inherit a proclivity to phthisis, as well as those in whom the disease has been developed.

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[*] Read before the American Climatological Association, May 5, 1884.

The hygienic and climatic treatment of consumption when manifested is generally acknowledged to be the best means of arresting its progress. To detect the influences that promote its development, so as to be enabled to prevent deposits, to eradicate tendencies, and to ward off the influence of heredity, are infinitely more worthy of our attention and of our exertions. Let us first examine what facts vital statistics will give us as to the general influence of large cities upon health.

The popular belief of the comparatively greater healthfulness of the rural districts over that of the cities is amply confirmed by vital statistics. By referring to them, we find that in Amsterdam there are 171 deaths to every 100 births; in Berlin, 131 deaths to every 100 births; in London the proportion is 124·92 deaths to every 100 births. In London, annually, the deaths exceed the births by 10,000. "This difference," says Dr. Hough, "would be much greater were it not for the hundreds of thousands of strangers who annually take up their residence in the great metropolis. If this supply of sturdy strangers was cut off, London would rapidly decline in population; indeed, this might be said, with equal truth, of any large city. None of them could keep up their population without recruits from the outside. The human race would become extinct in one or two centuries if we all lived in large cities." The mortality of great cities is found to be two and a half times larger than that of the rural districts.

Pulmonary consumption claims a large percentage of this mortality; it is in England certainly 25 per cent. greater in cities than in the country. Our very luxuries and comforts in cities seem to contribute, in no small degree, to the development of phthisis.

It is estimated, says Dr. Benjamin W. Richardson, that in the temperate zone, within which nearly all the civilized inhabitants of the globe are located, one tenth, at least, of the population die of consumption.

In New York the percentage of deaths from consumption is 14·09 of the whole mortality; in Boston, 15·17; in Philadelphia, 14·28; in Baltimore, 14·55; in the whole State of Massachusetts it is 20 per cent. Dr. Holmes said a few years ago, in an address at Harvard, that every other adult met in the streets of Boston had, or would have, some form of tubercular disease.

The large cities in this country and in Europe are generally located upon the sea-coast or the lakes and navigable rivers, many of them on marshy flats, some of them between two rivers.

Consumption is most prevalent at low levels, and seems to decrease with increase of elevation, according to Fuch, von Tschudi, and Mackey. At Marseilles, on the seaboard, the mortality from that cause was 25 per cent.; at Hamburg, 48 feet above the sea, it is 23 per cent. New York and Philadelphia are only 35 feet above the level of the sea, Boston 40 feet, Baltimore 60 feet. We need not refer here to the small mortality from consumption among the inhabitants of elevated regions, and to the almost immunity from phthisis in very high localities, such as on the Andes of Peru, the table-land of the Rocky Mountains, in the towns of Santa Fé de Bogota, at an elevation of 8,100 feet.

We thus see that the situation of large cities is such as to influence, unfavorably, the health of their inhabitants in developing pulmonary consumption. The discoveries of Dr. Bowditch, of Boston, and Dr. Buchanan, of England, give us one explanation of this fact—the relation between dampness of soil and phthisis, as one of cause and effect. The correctness of these opinions has been sustained by proof in several towns in England, where the subsoil had been dried, either by construction of drain sewers or by special drains and deep stone culverts, and the mortality from consumption had been reduced nearly 50 per cent. In Salisbury, for example, the death-rates from phthisis fell 49 per cent; in Ely, 47 per cent; in Rugby, 43 per cent. In other English towns, where no drying of the subsoil had been effected, there was no reduction in the phthisis death-rate, although great care had been taken to improve their general sanitary condition. Let any one examine the subsoil in many of our large cities, situated on low levels and near water-courses, and it will be found that for months it is saturated with moisture.

The deep cellars of dwellings where the sun never reaches throw the earth's moisture throughout the houses. In many instances the damp air of cellars feeds the furnaces.

Great variations of temperature and humidity in a climate generally cool and damp afford conditions extremely favorable to the development of consumption.

Where is it that we have greater variableness of climate than we meet at positions near the level of the sea and water-courses?

Pathology of Phthisis.—We leave to others to discuss the modern views in regard to the ætiology and pathology of phthisis. They may commence with Laennec and continue through the views of Boyle, Virchow, Lebert, Ruehle, Rindfleisch, and Niemeyer, down to Koch.

Without taking up the time of this association to trace the progress of the change of views caused by microscopical and chemical investigations (which would be superfluous after Dr. Westbrook's elaborate and exhaustive paper), it is only necessary for our purposes to state that what is popularly designated as pulmonary consumption, even admitting Koch's views in regard to the *Bacillus tuberculosis*, is not one specific disease, but several different morbid conditions. One prominent fact must be dwelt upon, and that is that a very large proportion of the cases met with are inflammatory in their origin, and are caused by catarrhal and chronic pneumonias, and also croupal pneumonias in alcoholic subjects—the lymphoid deposit resulting from these diseases, with the alveoli, breaking down into caseous material. The disputed points between Ruehle and Rindfleisch, contending that some of them are interstitial, are to us of small moment. The products of any inflammatory disease in the lungs may by degeneration become consumption. How readily this explains the cases resulting from trades and occupations giving rise to a dusty or gritty atmosphere—small particles of coal, cotton, flint, flax, steel, or hair in factories taken into lungs by inhalation, and frequently detected in them chemically and microscopically after death, actually, by their mechanical presence, causing phthisis! Dr. Greenhow calculated that 45,000 deaths occurred from this cause in England, and that the whole of this mortality might be prevented by the introduction of better methods of working and of ventilation. Since Greenhow's reports were made, acts of Parliament have been passed which, if carried out, would totally abolish this cause of phthisis. Moreover, Niemeyer's views in regard to clots in cases of bronchorrhagia collecting in the air-sac, causing phthisis, are, in all probability, correct. These act as foreign substances and produce irritation, and subsequently inflammatory disturbances of nutrition, throwing out a product rich in indifferent cells. Caseous metamorphosis almost necessarily follows. Is it not also likely that masses of mucus, becoming lodged in the minute bronchi, can produce the same results?

No matter what may be the exact rôle of the *Bacillus tuberculosis*, we maintain that Lebert, Cohnheim, Waldenburg, Klein, Burdon-Sanderson, and Wilson Fox have demonstrated that the injection not only of tubercular matter, but of caseous matter, pus, blood, and vegetable products, when artificially introduced into the circulation, produces tubercular diseases.

We must bear in mind that phthisis, whether we designate it as tubercular, catarrhal, or fibroid, is a disease frequently inflammatory in its origin; and that it is developed and promoted by mal-nutritive influences. Whatever lowers the nutrition of the body is calculated to cause phthisis, and to develop it in those predisposed to it.

That a large number of persons are born with an hereditary proclivity to pulmonary phthisis can not be questioned. Of the 210 physicians interrogated by the State Board of Health of Massachusetts, only one denied that consumption was caused or promoted by hereditary influences. Of 1,010 patients treated in the Brompton Hospital, 24·4 per cent. inherited the disease from their parents. Of Dr. Fuller's 385 patients, 59 per cent. had had either parents or grandparents who had died of it. Dr. Catlen's 1,000 cases showed 30 per cent. of hereditary influence. Dr. Theodore Williams states that, when, in addition to the predisposition of parents, he examined into that coming from grandparents, uncles, and aunts, he found the percentage as high as 48.

The hereditary influence of the mother is far greater than that of the father, because his taint is exercised at conception only, whereas that of the mother influences the offspring at that period and all through uterine gestation and lactation. Family predisposition is much more commonly met with among women than among men, the proportion being fifty-seven per cent. of women to forty-three per cent. of men. In hereditary predisposition the proportion is greater still in favor of men—nearly two to one. Dr. Williams's tables show that in hereditary males the development of phthisis is earlier—average age, 24·64 years—whereas in those free from taint the average age of the attack is thirty-two years.

As children resemble their parents in their color, in their features, in their dispositions, and even in their manners, so do they derive from them that predisposition which renders them liable to the development of phthisis. The primary weakness is in the formative forces which can be strengthened or lessened by the conditions and circumstances in which the parties are placed. This hereditary tendency can be materially lessened, and even entirely corrected, by supplying the necessary elements of nutrition and placing the individuals in good hygienic surroundings. Consumptive ancestry is an influence which ought to be recognized, in order that it may be combated by the strict observance of what Dr. Black appropriately designates the ten laws of health. Pure air, good food, out-door exercise, warm clothing, sunlight, regular habits, will strengthen the organism and eradicate the hereditary taint.

It is the poor, who can not obtain these, that suffer most from phthisis. According to D'Espié, there are sixty-eight deaths in a thousand of the whole mortality among the rich, to two hundred and twenty-three in a thousand among the poor.

We must bear in mind, however, that parents who have not themselves consumption can have consumptive children. The children of syphilitic or gouty parents, of aged parents, and of those whose constitutions have been weakened by excesses of various kinds or other debilitating causes, are prone to phthisis.

That which is inherited is not the disease itself, but the weakness or vulnerability of constitution, which had laid the foundation for the pulmonary disease in the parents, or had been developed in them as a result of other diseases. As we can take a plant out of the light and heat and subject it to darkness and cold, and thus prevent growth and fructification, so can we foster a vulnerability, or we can remove it by the means nature has given us. We know that an individual by his life and habits can acquire a predisposition; by weakening his power of resistance to the exciting causes of phthisis, he can fall a victim to it.

We can, in many cases, cure a predisposition to phthisis, and we can originate it by violations of the laws of health.

There is, in fact, a predisposition which is acquired, where the individual, by his life and habits, weakens his power of resistance to the exciting causes of phthisis. Cities tempt to excesses of all kinds, immoral, alcoholic; to exposure, late hours, and other depressing causes; loss of rest, anxieties of speculative business. These frequently are as strong in giving a predisposition as that derived from parents. *The mal-hygienic conditions which promote the development of consumption exist to a fearful extent in large crowded cities.*

Impure Air.—Of all influences in developing consumption in cities, impurities of the air are acknowledged as the most prominent. It is because the oxygen of the air and the food are the factors of the chemical changes of the organism. It is through these changes that we find the manifestations of life, such as heat-production, muscular contraction, nutritive, formative, and assimilative action. Life implies change, and its activity is in proportion to change, and for this oxidation is essential for the development of force. The normal proportions of oxygen in the atmosphere are necessary for these purposes. The true process of respiration has only been well understood for the past fifty years. That which takes place within the chest is only the commencement of the interchange of gases which is the essence of respiration. It extends to the minute histological elements of the body, and air that is deprived of its normal proportion (20·99) of oxygen, or is loaded with extraneous substances, affects profoundly nutrition, and impairs the strength and intrinsic vigor of the organism.

Professor Wilson states that the quantity of oxygen is always sensibly diminished in the air of large cities, even in the open streets. The lungs are the most sensitive parts of the organism to the impurities in the atmosphere, whether they be gaseous or suspended matters. They come into immediate contact with the delicate structure of the lungs and materially affect their functions and injure their nutrition. The demonstrations of Professor Tyndall with the electric light astonished the scientific world, and showed the almost universal diffusion of suspended materials in the atmosphere. Every chemical constituent of the soil is lifted and carried by the winds broadcast. The vegetable world contributes seed and the *débris* of vegetation, as well as volatile matter, spores, and germs. The animals throw off decayed and decaying organic matter, epithelium, pus, besides germs of vibrios, monads, bacteria, and bacilli.

I do not propose to occupy the time of this association in discussing the general necessity of ventilation, but the subject-matter demands that I should insist upon it as a means of averting pulmonary consumption. I can not, however, do more than allude to those vitiations of the air which are especially deleterious to health, and which have been proved to be so, in developing pulmonary consumption. The overcrowding in cities causes human beings, as we know, to breathe an atmosphere loaded with organic matter thrown out in respiration and deprived of its normal proportion of oxygen.

With the poor, they not only breathe their breaths over and over again, but the oxygen of their quarters is rapidly destroyed by their sheet-iron stoves. The organic matter and smoke from the cooking and burning of coal-gas are fearfully destructive of air. A one-foot burner destroys the oxygen of eight cubic feet of air in combustion, and produces two cubic feet of carbonic acid, besides other impurities, in one hour. The air of a room of 420 cubic feet ought to be renewed eight times an hour, in order to keep the air fit for respiration; but this is, unless by powerful artificial means, an impossibility. It is notorious, even among the rich, who can have large houses and capacious rooms, that the air is not kept sufficiently pure. They fear draughts so much that they keep themselves and their children breathing air which undermines their physical frame slowly, though none the less surely, all the time. Even if they allow the standard space of 1,000 cubic feet to the head, they do not permit the air to be changed, especially by cross-ventilation—the surest way.

Go where we will, as practitioners visiting from house to house, we find impure air. Our very places of worship are often oppressive from want of ventilation, and our theatres and concert-halls habitually so. Windows which ought always to be kept open in unoccupied rooms are habitually closed!

Persons predisposed to consumption, or who have a delicacy about the organs of respiration, should not, if possible, be allowed to live in large cities where the air is so impure, but should be given out-door occupation in the country, where, even in-doors, the open fireplaces and the penetrating winds force the impure air out and the pure air into the house.

Many years ago Marshall Hall declared that if he had any symptoms of consumption he would move to the country, eschew drugs, and live out-doors in a tent.

We maintain that musty houses are not only unhealthy, but positively poisonous. The organic matter collects in quantities in them and saturates the air; the venous blood is only partially arterialized, and, consequently, the nutritive functions are so lowered that inflammatory processes and tubercles occur readily in the lungs. It is thus not difficult to explain why neglect of ventilation is such a fruitful source of consumption. Rebreathed air contains carbonic acid and organic matters in excess, with a deficiency of oxygen. The blood can not take up the oxygen easily, nor get rid of the carbonic acid readily, because the conditions of the exchange of gases are absent. It does not at once suffocate, but it lowers all the organic processes of the body. Persons living in such an atmosphere think they are not being poisoned because it is slow in acting. The depression of the forces of life interferes with the strength of the formed tissues, and consumption is the result. *If we could only convince the community of the fact that vitiated air is so frequently a cause of consumption, it might supply a motive which would induce them to attend to the all-important requirements of ventilation.* We have to remind them over and over again that the human organism will not, with impunity, allow any alteration of the quantity or quality of the atmospheric air.

We find in the report of the English army sanitary commissions, published in 1858, a striking illustration of the effects of insufficient ventilation and contracted quarters producing excessive mortality from consumption among soldiers.

The air in the barracks of the Foot Guards only amounted to 331 cubic feet for each soldier, and the mortality from phthisis was as high as 13·8 in a 1,000. In those of the Horse Guards, on the other hand, with 572 cubic feet to a man, the mortality from phthisis did not exceed 7·3 per 1,000. After the report was made, the number of cubic feet was increased and the ventilation improved; then the number of phthisical cases occurring was materially diminished (Wilson).

(*To be concluded.*)

ON THE IMPORTANCE OF THE DIAGNOSIS OF CYSTIC DISEASE OF THE OVARY.*

By BACHE McE. EMMET, M.D.

THE small specimen which I have here may serve as a nucleus for a few remarks rather than as an object of any great interest in itself. The history of the patient from whom it was obtained is briefly this:

A girl of twenty was regular in menstruation, and the flow was normal, except that it was attended by some pain indicative of anteflexion. At one time there was some leucorrhœa, but it ceased with improvement in her general health. She was always accustomed to riding, whether menstruating or not, and on one occasion, six years ago, she had a severe fall from a chair when about to mount.

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* Remarks made before the New York Obstetrical Society, November 18, 1884.

All her present illness dates from that time, although the fall did not produce any injury sufficient to put the patient to bed. Every exertion exhausts her and is followed by faintness, but no real pain. There constantly comes over her a feeling of languor and great sleepiness. She is disposed to sleep constantly, and feels lethargic, suggesting an approach to hysterical coma. This has compelled her to forego any out-door sports for the past two years. This feeling of faintness is relieved by sleeping for a short time, but latterly this symptom has been coming on very often—several times in one day. Locomotion causes no pain, nor does defecation.

The patient was in the Woman's Hospital at the time this history was taken, and I saw her there and made the diagnosis of anteflexion and cellulitis on the left side, which was confirmed by others. At that time there seemed no doubt whatever that such was the patient's condition, the thickening and fullness, tenderness, and partial fixation of the uterus being as plainly indicative of parametritis as in any case to be found. She was put through the regular course of antiphlogistic and alterative treatment, to promote absorption of effused material, and in the course of two months felt somewhat better and left the hospital, considered to be improved, but still with a great mass on the left, which seemed to occupy the broad ligament.

I saw the patient within one week of her leaving the hospital. I find in my notes at that time: "Pelvic cellulitis was very marked while in hospital, but I find her condition vastly improved from what it was at that time; cellulitis rapidly clearing up; some thickening still on left side; fullness of broad ligament." Two months later a note in my book says: "On left side evident cyst, size of large walnut. It burst under my finger almost without pressure."

I thought at first that it had simply slipped over some other body, but I am confident of its rupture. The ovary could still be felt enlarged, but minus the cyst. It was down between the uterus and lateral wall of the pelvis, and could readily be pressed up against the latter; this practice, however, produced the peculiar feeling of nausea usually evoked.

The patient remained under my observation for three months longer, and during that time I have on several occasions, during an examination of the ovary, ruptured a cyst by slight pressure. The impression conveyed was that of feeling the cyst plainly; then, as if with a little start at the finger-end, the cyst would be gone.

By this time the question of removal of the ovary had been broached, but, though having mentioned the possibility of such a thing, I still dissuaded the patient from having recourse to it, having in mind both the general dangers to which abdominal section exposes a woman, and, in her case, at that time fearing lest what had been considered a pelvic cellulitis had also been accompanied by some degree of pelvic peritonitis, which had bound the ovary down, proving one more feature against a favorable issue.

As time wore on, however, the general symptoms did not improve; on the contrary, there has been much more nervousness than formerly, sleep has been much disturbed, there have been more ill-defined, disagreeable local sensations; and the young girl has given up all her more serious occupations, and has merely sought diversion, visiting from one friend's house to another to get away from herself and be freed from some impending evil.

Her condition of nervous exaltation had finally become such that she said death was preferable to this continued mental strain, and, receiving from her friends also assurance that she was entirely unfitted for any enjoyment of life, I consented to remove the ovary. This I did by abdominal section last Sunday week (November 9th), at the same time removing a portion of the corresponding tube, and the patient is now well. Stitches are out, and temperature and pulse normal.

Her expression is that she now feels as she did at thirteen, that a great weight has been lifted from her mind, and that she is taking pleasure in planning for her old pursuits, which had become distasteful to her, and which had been abandoned. There is a new interest in life for her, and she feels herself well fitted to enjoy it.

My apprehension of finding old pelvic inflammation, peritoneal as well as cellular, and the likelihood of experiencing considerable, perhaps insurmountable, difficulty in removing the ovary was not substantiated. There was not anywhere about the uterus a trace of it to be felt, and great was my surprise to find the ovary, though exactly where I had always felt it, down against the uterus and posterior to the broad ligament, yet absolutely free, and without any evidence of effused material about it, so far as the finger could tell, and I experienced not the slightest difficulty in seizing it and bringing it to the level of the abdominal opening.

This fact, in conjunction with my observation of the case *one week* after she left the hospital, when we were still persuaded there existed abundant cellulitis, has established in my mind the conviction that there was an error in diagnosis all that time, and that the condition present was that of ovarian cyst, reaching to the parts about to the extent of being immovable, and in other ways conveying the impression of a fullness of the broad ligament due to cellulitis. Were it otherwise, I could not have failed to recognize somewhat the same condition, for there could have been no such speedy absorption of exudation as that would imply.

I now question whether we do not many times overlook a small cystic ovary, or a dilated tube, which at the same time is prolapsed, and, pushing the broad ligament before it, occupies practically the position of lateral parametritis, and, by this same pressure forward of the broad ligament, shortens it and fixes the uterus toward that side.

Three other cases now come to mind—one in my own practice, and two in that of others—in which, after they had been treated for a considerable time for pelvic cellulitis, and not much improvement resulted, by either more careful examination in looking further for a cause of the continuance of the symptoms, or through some chance, a prolapsed and cystic ovary has been discovered.

In the one of my own practice I last spring removed the ovary and tube, the same as in this present case, and the patient has been perfectly well ever since.

In one of the two other cases the same operation has also been successfully performed.

One other question which this case suggests to me: Are we not called upon, and is it not our duty, to operate in such cases, and even, I would say, in cases of prolapsed ovaries which are producing distressing symptoms, and which treatment fails to restore to their position, at a much earlier period than is usual—as early as they can be recognized beyond a doubt—rather than allow our patients to have their nervous system much impaired, to have them subject to the risks of inflammatory complications such as we at times see, notably a recent case at the Woman's Hospital, in which the patient died on the table from exhaustion, rendering it difficult, if not impossible, of removal?

Is it not desirable to oftentimes attach greater weight to patients' statements of their own sensations, rather than be guided as much as we are by our own estimation of the patients' symptoms, not of necessity waiting for an emaciated invalid to recognize the possibility of her having an ovary so diseased as to call for removal, and not suffering her to go year after year leading a dragged-out existence rather than offer her this means of relief, which, if employed with all desirable care and precaution, must, I believe, soon rank among the simpler operations of gynæcology?

True, it may be argued, some cases will remain at a stand-still, and many ovaries contain follicles filled with mucus which are harmless, and may never proceed to increase and give rise to trouble. Yet, is not the argument stronger on the opposite side; is there not more harm to come from allowing them all to grow than from removing an occasional one which might, if left alone, have come to nothing?

The satisfaction of operating in an uncomplicated case, and, if due care is exercised, the almost certainty of seeing the patient recover, is, in my mind, a strong plea for early operation.

Outside of the main considerations of this note, but as a feature of interest to record, I would mention the appearance of the right ovary, which was left intact. I held it for a moment between my two fingers, questioning whether to remove it or not, inasmuch as it has been advised, if an ovary is at all diseased, it is best to remove it. I did not do so, for the reason that it bore no mark of disease, and I could not see the logic of doing away with a perfectly sound organ in a young girl, notwithstanding the existence of anteflexion and slight dysmenorrhœa.

It had upon one extremity a ripening follicle, and so ripe that it was turgid and appeared ready to burst. It was tensely full and livid. The ovary was held between my fingers quite apart from the tube, which latter was seen to be quite quiescent, not in the least congested, not, as one might expect, already grasping the ovary; and yet, in spite of all these manipulations, the patient menstruated very comfortably, and the same as usual, on the second day after the operation.

OLEATE OF COCAINE IN OPHTHALMIC PRACTICE.*

By CHARLES J. LUNDY, A. M., M. D., DETROIT.,
PROFESSOR OF DISEASES OF THE EYE, EAR, AND THROAT IN THE MICHIGAN COLLEGE OF MEDICINE.

ALTHOUGH much has already been written regarding the use of cocaine as a local anæsthetic, yet little has been said about its therapeutic uses. So far as I am aware, what has been published regarding this valuable drug relates entirely to the hydrochlorate, for I have seen no mention of other preparations. The object of this paper is to call attention to the oleate of cocaine, which, in my opinion, possesses many advantages over the hydrochlorate.

Through the kindness of Mr. Clarence G. Stone, I obtained some specimens of McKesson & Robbins's oleate of cocaine, with which I have conducted numerous experiments upon the healthy eye, and have also tested the therapeutic value of the oleate in a considerable number of cases of eye disease. Among the advantages which the oleate of cocaine possesses over the hydrochlorate, the important one of economy may be mentioned. As will be seen, a much smaller quantity will produce the desired result than when the aqueous solution of the hydrochlorate is employed. This may, in part, be accounted for by the fact that it is not diluted with and washed out by the tears. Neither does it so readily flow down the lachrymal passage. The great expense of cocaine will prove a barrier to its more general employment; therefore any preparation of the drug which will lessen the expense, and at the same time afford all or nearly all of its advantages, must be a *desideratum*.

From experiments made upon healthy eyes, with a five-per-cent. preparation of the oleate, I find its anæsthetic effects are much greater and its action is more rapid than those obtained by using a like quantity of the hydrochlorate. Within two minutes after one drop of a five-per-cent. preparation of the oleate was placed in the conjunctival sac, sensibility of the cornea and conjunctiva was nearly lost. In three minutes the cornea and conjunctiva were completely anæsthetized. The conjunctiva could be seized with a sharp fixation forceps, and the eye rotated forcibly from side to side, without producing any pain or discomfort whatsoever. The patients felt the stretching of the muscles when the eye was rotated far to the opposite side—nothing more. A sharp instrument pressed against the cornea could not be felt in the slightest. Where only a single drop of the five-per-cent. preparation was employed, the complete anæsthesia was of but short duration. After the lapse of seven minutes the conjunctiva and cornea showed evidence of returning sensibility, and in fifteen minutes sensation in these parts was nearly or quite normal. In eight minutes after one drop was used the pupil was perceptibly enlarged, and in twelve minutes it was widely dilated, but not wholly irresponsive to light. In ten minutes there was slight failure of accommodation. In fifteen minutes the failure of the accommodative power was more noticeable, but it was by no means very marked. The effects on the pupil lasted several hours.

From these observations it will be seen that it is an important mydriatic. In many cases it will be desirable to dilate the pupil in order that a thorough ophthalmoscopic examination may be made. To-day cocaine is the mydriatic which gives the most satisfaction where dilatation of the pupil for this purpose is desired, for, while it dilates the pupil quickly and fully, it does not seriously interfere with the patient's ability to focus his eye for near objects. Cocaine possesses another advantage over other mydriatics in this connection, and that is, it renders the eye less sensitive to light, which is an important point where hyperæsthesia of the retina exists.

In experiments where one drop was placed in the conjunctival sac every three minutes till four or five drops were used, I observed that it exerted a considerable influence over the ciliary muscle. Patients who could read Jäger No. 1 at five inches before the use of the oleate could not see either No. 1 or No. 2 of Jäger's type after the lapse of fifteen or twenty minutes. So marked an effect upon the muscle of accommodation I have not witnessed from the very free use of the hydrochlorate, although my experiments with the latter were not made with a solution stronger than four per cent. The contractile power of the ciliary muscle returned completely after a lapse of two or three hours, when several drops of the oleate had been employed at intervals of three minutes. When it was used in this manner the pupil did not regain its normal size for twelve to fifteen hours. As one might naturally expect, slight differences were observed regarding its effect in different subjects, but the foregoing results are an average obtained from several experiments.

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* Read before the Detroit Medical and Library Association.

As a therapeutic agent, I think the oleate of cocaine will find favor with the profession, and especially among ophthalmic surgeons. Ointments are used for various affections of the eyes, and the oleate can be used in combination with these or by itself. In a large number of cases occurring in ophthalmic practice it can be used as an adjuvant to other remedies. I have thus employed it in several cases, and I have no hesitation in saying that these cases have done better than similar cases have done where the oleate was not employed. I have used it in five cases of granular ophthalmia with ulceration of the cornea. In three of these cases there was a considerable degree of blepharospasm and photophobia. The results were highly gratifying. In all cases of granular ophthalmia where ulceration of the cornea exists, and more especially where there is much spasm of the lid, the roughened, granular conjunctiva rubs and irritates the cornea and aggravates the trouble, and delays or altogether prevents the process of repair in the corneal ulcer. Ophthalmic surgeons are so fully aware of the mischief arising from this source that many of them resort to the little operation of cutting the outer canthus, thus weakening the power of the orbicularis and limiting the injurious effects of its spasmodic contraction. Now, cocaine relieves the blepharospasm as no other remedy will, and the rasping action of the lid is reduced to a minimum by its employment. Then, again, the use of cocaine, either before or immediately after the application of an astringent to the conjunctiva, prevents all pain, and limits the reaction which always follows such applications. And this, let it be remembered, is an important point in the treatment of granular lids where corneal ulcers exist as a complication.

The relief of pain in ulceration of the cornea, whether the ulcer is a complication of some other eye affection or not, must always be an important point in its management. As a general rule, rest is one of the principal factors in the treatment of diseased parts, and to this general rule the eye forms no exception. Now, if the eye is the seat of severe pain, it can not be kept completely at rest, and without proper means to control this pain and secure rest we labor under a disadvantage. Heretofore we have relied upon such remedies as atropine, duboisine, etc., and, while in many cases they afforded much relief, in other cases their influence was almost *nil*. But in cocaine we have a remedy which, either alone or in combination with others, such as atropine, will prove a boon to patients suffering from painful affections of the eye, and especially when the disease is located in the anterior portion of the ball.

I have employed oleate of cocaine in three cases of phlyctenular ulcer of the cornea. In one of the patients, a weak, delicate child of seven years, the blepharospasm was so great that no satisfactory view of the cornea could be obtained. In such cases chloroform is usually administered in order that a thorough inspection of the cornea may be made. In this instance one drop of the oleate of cocaine was placed in the conjunctival sac, and another in three minutes. In two minutes after the second application, the blepharospasm was so much relieved that the eye could be readily opened, and a complete view of the cornea was obtained. The cocaine was regularly used afterward, the spasm of the lid almost entirely disappeared, and the little patient made a more rapid recovery than she would have done without the cocaine. In many children affected with phlyctenular keratitis, the degree of lid spasm, photophobia, and lachrymation is out of all proportion to the corneal lesion. Without now taking time to discuss this subject, I will say that in such cases cocaine will be found a valuable adjuvant in the treatment, because, as already explained, it will control the spasm of the lid and give the cornea rest. And in just such instances will the oleate be the more valuable preparation, for in such cases the great flood of tears will wash out the aqueous preparation and limit its effect.

I have employed oleate of cocaine in one case of kerato-iritis as an adjuvant to atropine, and found it of great value. Atropine had little influence in dilating the pupil and relieving pain until the cocaine was employed. After the use of cocaine, the pupil responded to atropine, and the adhesions (posterior synechia) which had formed yielded to the influence of the two powerful mydriatics.

In one case of severe iritis, with great tenderness over the ciliary region, where atropine and the free use of the artificial leech to the temple had no effect in controlling pain, cocaine acted like a charm. The cocaine was used every third hour, and ordered at night also if pain prevented sleep. In this way the patient was kept perfectly comfortable, and no trouble was experienced in dilating the pupil and in keeping it dilated after the use of the cocaine. In one case of traumatic keratitis I employed cocaine three times a day, and, although no other remedy was used, the patient made a rapid recovery, and suffered scarcely any inconvenience after the first use of the cocaine.

We have seen that cocaine exerts a very beneficial influence in corneal diseases, and that its value in these cases is due, in part at least, to its power to relieve pain and irritation and control spasm of the lid, thus affording rest to the diseased cornea. We have also seen that it is an important adjuvant in the treatment of iritis, and its *modus operandi* is worth a moment's consideration. It is well known to every ophthalmic surgeon that pain and irritation in the ciliary region cause marked contraction of the pupil, and that this contraction of the pupil continues until the cause is removed, or until the pain and irritation are controlled by the use of some powerful mydriatic. Indeed, mydriatics are often powerless to dilate the pupil where the pain and irritation are very great. Now, in the more common forms of iritis, we have several factors, among which pain and ciliary irritation occupy an important place. If we can relieve and control the pain and irritation, we can the more readily dilate the pupil, provided no firm synechiæ have formed. And every physician knows that the iritis soon subsides if the pupil is once fully dilated; because the blood, so to speak, is squeezed out of the vessels of the iris, and the blood supply is greatly lessened, when the iris tissue is compressed into a small space, as it is in extreme dilatation of the pupil. Thus we see that the relief of ciliary pain and irritation will be an important indication in the treatment of iritis. This is no idle speculation, and every ophthalmic surgeon has frequent opportunities of observing this fact. As an illustration of this, I will mention the case of a Mr. Price, of this city, who came under my care some time since while suffering from a so-called "rheumatic iritis." Atropine was utterly powerless to relieve his pain or dilate his pupil. At first twenty-grain doses of salicylate of sodium were ordered, and the dose was finally increased to forty-five grains. After the second dose of forty-five grains the physiological effects of the drug showed themselves; immediately the pain in his eye and in his swollen joints ceased, and the pupil dilated *ad maximum* under the use of atropine. Now, in cocaine we have a remedy which not only controls pain and irritation of the ciliary region, but also has great power as a mydriatic, and is therefore doubly useful in the treatment of iritis. But, when we combine cocaine with atropine in the treatment of this affection, we have at our command means that will yield valuable results unless the disease has already advanced too far.

That cocaine exerts a beneficial influence in inflammatory affections of the anterior portion of the eyeball, aside from its power to relieve pain, I think there can be no doubt. Whether this is due to its action on the vaso-motor nerves I am not prepared to say.

In my earlier experiments with cocaine I was inclined to believe that it produced a partial paralysis of the vaso-motor nerves. But that it does not produce vaso-motor paralysis when used in small quantities I am now fully convinced. In the November number of the "Physician and Surgeon" I reported a case in which a decided paleness of the conjunctiva followed its use, and I have since observed similar effects in other cases. If it can be demonstrated beyond doubt that cocaine does really cause contraction of the blood-vessels when used in small quantities, and I think it can, it will prove to be the most valuable agent yet discovered for the treatment of inflammatory affections of the eye.

52 Lafayette Avenue, Detroit, *January 19, 1885.*

The Sanitary Council of the Mississippi Valley will hold its seventh annual meeting in New Orleans on Tuesday, March 10th. It is expected that the attention of the meeting will be largely given to the subject of cholera.

ON THE SUBSTITUTION OF THE PREPARATIONS OF COCA FOR COCAINE.*

By LOUIS JURIST, M. D., Philadelphia,

instructor in laryngology and rhinology, post-graduate course, jefferson medical college, laryngoscopic department of jefferson medical college hospital.

Immediately after the demonstration of the great utility of cocaine in laryngological practice I began the use of coca in the form of infusion, fluid extract, and lozenges. Although aware of the utility of coca in diminishing irritability of the larynx, I was surprised by its complete success in relieving dysphagia in tuberculosis and syphilis. In the first case of tubercular laryngitis, Dr. Rex being present, the patient, who declared his aphagia complete for four days previous, swallowed an entire glassful of milk, without any hesitation or regurgitation, after two applications of the fluid extract. Since then this observation has been repeatedly verified. A female patient, under the care of Dr. J. F. Bower, suffering from advanced tuberculosis, declared the relief afforded equal to that from cocaine. In two cases of syphilitic ulceration the statements were equally positive.

In subacute and chronic inflammation of the nose, pharynx, and larynx, the preparations of coca were extensively used. The alcoholic fluid extract being found too irritating for the nasal passages, a concentrated infusion (one minim representing a grain of the leaves) was substituted, although even this excites some burning. In acute coryza its local use was supplemented in a few cases, with apparent good effect, by the internal administration of the fluid extract.

In the form of gelatin lozenges, we have used coca, both in combination with aconite and with belladonna, and alone. Alone it has been of very great service in all forms of sore throat, and has been freely and successfully used among our dysphagic patients during the interval of their visits. The combination with belladonna and aconite was found extremely useful in acute inflammations.

In chronic pharyngitis and laryngitis, although many patients declared themselves improved, it did not appear that any were permanently benefited, the relief consisting principally in the amelioration of the tired, uneasy sensation in the throat. One patient complained of a sense of cold following every application. The gelatin lozenges used in the foregoing experiments were kindly furnished me, for hospital use, by Messrs. C. L. Mitchell, M. D., & Co., manufacturers of gelatin preparations, Ninth and Race Streets, Philadelphia, and were prepared according to the following formulæ:

℞ Ext. cocæ fl., gr. v:
The amount in each lozenge.

℞ Ext. cocæ fl., gr. v;
Tinct. rad. aconiti, gr. ss.;
Tinct. belladonnæ, gr. j.
Make one lozenge.

The gelatin vehicle or basis used in these lozenges renders them exceedingly well adapted for the treatment of inflammatory conditions of the throat, as its bland and demulcent character assists the peculiar action of the coca, while their slow and gradual solution in the mouth allows of the prolonged effect and influence of the coca upon the mucous surfaces. The coca lozenges are also exceedingly useful in laryngoscopy where the throat of the patient is extremely irritable; for, if several lozenges are directed to be taken at intervals a short time before the examination, the undue sensitiveness will measurably disappear.

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* Read before the Philadelphia Laryngological Society, January 23, 1885.

It seems reasonable to conclude that coca and its preparations deserve considerable use by the laryngologist. The addition of a fluid extract or infusion to gargles, sprays, mouth-washes, and douches will aid in relieving pain and controlling irritability.

My experience in operative procedures has been limited to applications *after* removal of hypertrophic mucous membrane, tonsils, etc. On these cut surfaces its anæsthetic effects were repeatedly noticed. When the use of caustic or painful applications is preceded by coca infusion or fluid extract freely brushed over the part (syphilitic ulcerations, etc.), the pain is scarcely appreciable.

Application to unbroken surfaces produced very slight anæsthesia, although undue sensitiveness to examination was always overcome—a fact observed some years ago.

The difficulty in procuring reliable preparations is considerable, as the leaf now in the market is mostly of inferior quality. My thanks are due to my friend, Mr. F. W. E. Stedem, a pharmacist of this city, for his endeavor to make my work reliable. His assistance has been of great value.

1210 Wallace Street, Philadelphia.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

A Handbook of Pathological Anatomy and Histology, with an Introductory Section on Post-Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By Francis Delafield, M. D., Professor of Pathology and Practical Medicine, College of Physicians and Surgeons, New York, and T. Mitchell Prudden, M. D., Director of the Physiological and Pathological Laboratory of the Alumni Association of the College of Physicians and Surgeons, New York, etc. New York: William Wood & Co., 1885. Pp. xvi–575.

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States for the Fiscal Year 1884. Washington: Government Printing Office, 1884. Pp. 303.

Cocaine, and its Use in Ophthalmic and General Surgery. By H. Knapp, M. D., Professor of Ophthalmology in the Medical Department of the University of the City of New York. [Reprint from the "Archives of Ophthalmology," with Supplementary Contributions by Dr. F. H. Bosworth, Dr. R. J. Hall, Dr. E. L. Keyes, Dr. H. Knapp, and Dr. W. M. Polk.] New York: G. P. Putnam's Sons, 1885. Pp. 87. [Price, 75c.]

The Analectic. A Monthly Periscopic Summary of the Progress of Medical Science. Edited by Walter S. Wells, M. D. Vol. I. New York: G. P. Putnam's Sons, 1884. [Price, $3.25.]

Dental Surgery for Practitioners and Students. By Ashley W. Barrett, M. B. (Lond.), M. R. C. S., L. D. S., Dental Surgeon to the London Hospital. Philadelphia: Presley Blakiston, Son & Co., 1885. Pp. xii–83. [Price, $1.]

The Care of Infants. A Manual for Mothers and Nurses. By Sophia Jex-Blake, M. D., Member of the Irish College of Physicians, etc. London: Macmillan & Co., 1884. Pp. xiii–109.

Practical Anatomy; a Manual of Dissections. By Christopher Heath, F. R. C. S., Holme Professor of Clinical Surgery in University College, London, etc. Sixth Edition, revised by Rickman J. Godlee, M. S. Lond., F. R. C. S., Demonstrator of Anatomy in University College, London, etc. With 24 Colored Plates and 274 Engravings on Wood. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xvi–567. [Price, $5.]

Bodily Deformities and their Treatment; a Handbook of Practical Orthopædics. By Henry Albert Reeves, F. R. C. S. E., Surgeon to the Royal Orthopædic Hospital, etc. With 228 Illustrations. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xii–460. [Price, $2.25.]

A Case of Unilateral Chromidrosis (?). By James C. White, M. D., etc. [Reprint from the "Journal of Cutaneous and Venereal Diseases."]

Correspondence.

LETTER FROM WASHINGTON.

Sanitary Resolutions before Congress.—The Appropriation for the Army Medical Museum.

Washington, *February 18, 1885.*

The following resolutions were introduced into the House on the 17th inst. from the Public Health Committee:

Whereas the late prevalence of Asiatic cholera in portions of Europe has induced a widespread and, judging from our past experience, probably a well-founded apprehension that said disease may be introduced into this country during the present year, the prevention of which is very desirable; and

Whereas it is also very desirable that the introduction of all contagious, infectious, and epidemic diseases into this country be prevented, if possible, and that they be suppressed if introduced; therefore,

Be it Resolved, That, in the judgment of the Committee of Public Health, there should be provided in the proper annual bill an appropriation of $500,000, to be expended in the discretion of the President of the United States, through such governmental agencies as he may designate, for the purposes indicated in the foregoing preamble.

Resolved further, That, in the judgment of said Committee, there should also be provided in the proper annual bill an appropriation of $25,000, to pay the per diem and necessary expenses of the National Board of Health for the ensuing fiscal year.

This is practically the same as the resolution introduced by the committee last year, except that the discretionary fund is increased from $250,000 to $500,000. There is no probability that the Appropriations Committee will take any action upon the resolutions, as it is understood that the matter has already been passed upon.

The action of the House in passing the appropriation providing for the Army Medical Museum and Library building is very gratifying to all interested. The plans are understood to be well advanced, and it is said that the building will be located somewhere near the Smithsonian Institution.

Dr. Tyler, of this city, has been appointed demonstrator at the Georgetown Medical College, *vice* Louis Kolopinski, M. D., resigned.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by
D. Appleton & Co.

Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, FEBRUARY 28, 1885.

LECTURES TO NURSES.

A recent number of "Health" contains one of a series of lectures delivered by Mr. W. H. Allchin before the Westminster Training School, a perusal of which furnishes food for reflection. The lecture in itself is a scholarly and scientific exposition of the subject of vital forces, and it is no mean compliment to the intelligence of English nurses that they should be considered capable of understanding and profiting by such a discourse, but we question whether the lecturer's auditors were able to follow him in all of his statements. This suggests the query, What is the general tenor of theoretical training-school instruction, at least in New York? The idea of furnishing nurses with a certain amount of medical knowledge is undoubtedly a good one, since this knowledge not only raises them above the level of mere machines, but is calculated to inspire them with a personal sense of the breadth and dignity of their profession—for nursing should be a profession, and not a trade. But we have long entertained serious doubts as to the wisdom of instilling into the mind of a bright, ambitious young woman just enough medical lore to place her in a position where she feels herself not only the equal, but even the critic, of the doctor. This is not a speculative objection, since we have heard it frequently urged by practitioners of large experience.

Any system of instruction which tends to make the nurse forget that she is the assistant, and not the adviser, of the physician, is an erroneous one, and cripples the usefulness of both individuals, whose sole purpose should be a harmonious cooperation in the best interests of the patient.

We have even heard men say that they had no patience with "these high-toned training-school nurses," but preferred one of the good old stamp, who knew nothing about temperature-charts and the examination of urine, but could hold her tongue and obey orders to the letter. This is going to the other extreme, for it is only just to the patient that an attendant should be provided who by her intelligence and breeding will inspire confidence and respect; but we can readily understand how such a feeling as we have mentioned might be fostered in the minds of physicians whose only experience with trained nurses has been derived from their association with those who have been spoiled in the training. We distinctly disclaim any intention of casting reflections upon the graduates of New York hospitals, for whose characters and practical usefulness we entertain a high respect. We simply desire to lay stress upon the fact that many of the courses of lectures delivered before the pupils in our training-schools are entirely "over the heads" of the majority of the auditors, and that, even if it were assimilated, the information imparted in them is such as the nurse will never use when she enters upon the actual task of earnin her bread and butter. For the position of the nurse is precisely that of the hospital interne—in actual practice many o the rules and traditions of the wards must be laid aside, an this applies particularly to the relative positions of the nurs and the house surgeon.

Familiarity that would be overlooked in the hospital woul be out of place in the sick-room. Let the nurse be instructe in the practical part of her duties, in everything that require the training of her senses; but why should her mind be overburdened with symptomatology, the details of surgical operations, and questions in pathology? What possible good ca result from teaching her to recognize a hyaline cast under th microscope, or from puzzling her with speculations upon th exact location of the tissue-changes? Are we educating ou nurses as nurses, or as physicians? The line is certainly no drawn very sharply. Here, as everywhere, the wise sayin of Pope may be applied, "A little knowledge is a dangerou thing."

TREADMILL WORK IN GENERAL PRACTICE.

Considering the universal complaint that there are to many medical graduates and too many practitioners, it woul seem that sharp competition ought to make it impossible fo careless and indifferent aspirants to obtain a living foothold i the profession. But it can not be denied that hundreds of ver fair men, perhaps originally above the average in profession attainments, have gradually lapsed into a routine practice whic is creditable neither to themselves, to the communities in whic they move, nor to the age in which they live.

A correspondent thinks that this is especially true of th extreme east—New England and New York. Hundreds o physicians living within two hours of Boston, New Haven, o New York, who have perhaps earned a fair competence an find themselves in moderately easy circumstances, have cloye of society and library privileges for which their more distan brethren hunger and thirst in vain every year, and now go o performing their daily round of duties as an irksome task rath than as a humane and gratefully recompensed vocation, as we as an increasingly interesting study.

Various causes are at the bottom of this: the apathy o communities with regard to advanced medical ideas; the rust ness and apathy of local medical societies; the rage of the ave age community for advertising quacks and their delusive no trums; to which may be added a kind of mental dyspeps which circumstances have gradually induced and continue t foster.

We have no doubt that hundreds of practitioners locat within the limits indicated, who stand well in the professio and have made a tolerable success in a business way, will reco nize the foregoing as a not seriously exaggerated picture of the own condition. What they need is intellectual ventilation, ar to be jogged out of the present rut. Perhaps this would l favored by a change of scene, a removal to more salubrious ar less malarious regions—to the mountains, or the far Wes

Many a man who is now doing little for himself and less for his community might, by a shifting of the scene, take a front rank among his professional brethren, awake to a realization of the usefulness, dignity, and honor of his calling, and from his present apathy and intellectual *ennui* turn to a state of professional enthusiasm through which he would be enabled to better satisfy his patrons and himself, the latter being by far the more important consummation.

Our correspondent suggests that there be established at some great center a physicians' exchange, where wants may be registered and exchanges of locations easily effected. This would facilitate a healthy movement in the right direction, and would doubtless result in good to all parties concerned; to the jaded practitioner who has come to feel his work a treadmill routine and who needs a change of surroundings, fresh incentives to action, and new faces to study; to the unthinking patrons who have come to look upon the unstinted strain of their family physician in their behalf as a matter of course, and who have little appreciation of the self-sacrifice and deprivation endured silently that their needs may be constantly met and adjusted; and to the hundreds of robust country practitioners who would like to spend a few years nearer the sea-coast and the literary and commercial centers.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 24, 1885:

DISEASES.	Week ending Feb. 17.		Week ending Feb. 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever	11	3	10	4
Scarlet Fever	67	11	93	20
Cerebro-spinal meningitis	5	5	4	3
Measles	135	24	112	26
Diphtheria	75	36	55	25

The Mary Fletcher Hospital, Burlington, Vt., it is understood, is to receive a further endowment of about $200,000 by the will of Miss Mary A. Fletcher, who died in that city on Tuesday, the 24th inst.

The Death of Dr. Henry Curtis Hough, of Providence, R. I., a physician long and favorably known throughout Rhode Island, took place in Olneyville, a suburb of Providence, on the 17th inst. Dr. Hough had practiced medicine for nearly half a century, having established himself on Cape Cod before going to Providence. He was highly respected, both as a physician and as a citizen.

A French Scientific Mission.—The "Progrès médical" states that Dr. Gibier has been commissioned to visit Germany, to study the organization of micro-biological laboratories.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 15, 1885, to February 20, 1885:*

Patyki, Julius H., Captain and Assistant Surgeon. Leave of absence further extended seven months on surgeon's certificate of disability. S. O. 40, A. G. O., February 17, 1885.

Perley, H. O., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect about March 5, 1885. S. O. 16, Department of Dakota, February 10, 1885.

Robinson, S. Q., Captain and Assistant Surgeon. Relieved from duty at Fort Spokane, Washington Territory, and ordered for duty as Post Surgeon, Fort Klamath, Oregon. S. O. 23, Department of the Columbia, February 9, 1885.

Kean, J. R., First Lieutenant and Assistant Surgeon (recently appointed). Assigned to duty at Fort Sill, Indian Territory. S. O. 23, Department of the Missouri, February 11, 1885.

Society Meetings for the Coming Week:

Monday, *March 2d:* New York Academy of Sciences (Section in Biology); Brooklyn Anatomical and Surgical Society (private); Medico-Chirurgical Society of German Physicians, New York; Morrisania Medical Society, New York (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; Providence, R. I., Medical Association; Hartford, Conn., Medical Association; St. Alban's, Vt., Medical Association.

Tuesday, *March 3d:* New York Obstetrical Society (private); New York Neurological Society; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Elmira, N. Y., Academy of Medicine; Medical Society of the County of Hudson, N. J. (Jersey City); Essex South District, Mass., Medical Society (annual—Salem); Androscoggin County, Me., Medical Association (Lewiston).

Wednesday, *March 4th:* Medical Society of the County of Richmond, N. Y. (Stapleton); Penobscot County, Me., Medical Society (Bangor).

Thursday, *March 5th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-Psychological Association.

Friday, *March 6th:* Practitioners' Society, New York (private).

Saturday, *March 7th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society, New York (private); Miller's River, Mass., Medical Society.

OBITUARY NOTES.

Louis Elsberg, M. D.—The death of Dr. Elsberg, which, as was briefly announced in our last issue, occurred at his home, in this city, on Thursday, February 19th, is a marked event in the history of laryngology in this country, and of even greater significance as coming so quickly after that of his distinguished fellow-laborers, von Bruns, Krishaber, Fauvel, and Thomas.

To Dr. Elsberg more than to any other New York physician it was given to see the rise, the advancement, and, finally, the complete success of the special department of research in which he labored, himself meanwhile keeping well abreast of the current of fresh discovery and practical improvement by which so many of his predecessors and contemporaries have, one after another, been overborne, and so many of the old scientific landmarks carried away.

Dr. Elsberg was born at Iserlohn, Westphalen, forty-eight years ago, and came to America with his parents when he was thirteen years old. The family settled in Philadelphia, where they started a small shop, and the boy became a pupil in a public school. Afterward he went to the High School, from which he graduated, with the valedictory honor, in 1852. A position was obtained for him in an academical institution in Winchester, Va., where he remained two years, after which he returned to Philadelphia, and, entering the Jefferson Medical College, took his medical degree in 1857. Immediately after graduating he came to New York, and for six months was resident physician at Mt. Sinai Hospital. He then went abroad for a year. He returned in 1859, and at once began the active practice of medicine in this city, but shortly turned his attention exclusively to laryngology. In this he soon met with signal success, both as a practitioner and as a well-grounded authority in the literature of the subject, until, in later years, few could be found whose knowledge was more thorough or whose opinions carried greater weight.

As he was possessed of great energy of character and untiring industry, his aid was sought for and appreciated in many important directions, prominently by the American Laryngological Association. Of this society he was one of the founders and, from its inception, one of its most active workers, occupying the position of president during the first two years of its existence, and contributing not a little to its prestige and success. Soon after the establishment of the Association, Dr. Elsberg, in company with Dr. Cohen, Dr. Knight, and Dr. Lefferts, started a special quarterly magazine, the "Archives of Laryngology," upon such a high plane of literary and scientific excellence that it easily and at once took the lead among journals devoted to the same branch. Dr. Elsberg's labors in these two fields were widely recognized and well repaid, for they assisted materially in extending his already brilliant reputation. For several years he held the lectureship of laryngology in the Medical Department of the University of the City of New York, delivering at the same time an excellent course of clinical lectures at Charity Hospital. He assumed a similar professorship at Dartmouth College, while, in the same position in the New York Polyclinic, his devotion and reputation contributed materially to the gratifying success which that institution has met with. Dr. Elsberg was connected with many of the leading medical societies both at home and abroad. His writings, which were extensive, were characterized by great clearness of thought and expression, and his style, eminently philosophical, was at the same time convincing and attractive. He restricted himself mainly to the consideration of limited subjects, furnishing monographs which were, in many instances, of exceptional value and importance.

About two years ago he was attacked with a disease of the kidneys, which impaired his health and seriously threatened his life. From this he recovered, however, to all appearance so thoroughly that he was enabled to take up his usual duties—with what vigor those who were familiar with him well knew. For a long time after the attack he seemed solicitous about himself, referring guardedly to the future; indeed, in his last paper, read before the American Laryngological Association in May, 1884, on the subject of Laryngeal Spasm (see the last volume of this journal, page 685), he explains in his introduction the objects of the thesis, and adds, prophetically, "and I promise you that, *if I live*, I will prepare a more elaborate essay on the subject before our next annual meeting." About a month ago, however, he stated to the writer that he had never felt in better health and spirits in his life, and this assertion his appearance seemed fully to bear out. Ten days before his death, Dr. Elsberg took a severe cold, but persisted in attending to his regular duties. Pneumonia soon set in, and, before it was generally known that he was sick, his death took place. His funeral, held at his late residence on Monday last, was attended by a large gathering of his professional and social friends, many of whom came from great distances.

Personally, Dr. Elsberg was possessed of social qualities of a high order, and they were nowhere so well displayed as in his own home. In conversation he was learned and brilliant; as an entertainer he was most hospitable; while to his faithfulness as a physician the enthusiasm and affection of his patients, commanded by him to an extraordinary degree, are his highest tribute. His place will not soon be filled. D. B. D.

Proceedings of Societies.

CHICAGO MEDICAL SOCIETY.

Meeting of February 16, 1885.

The President, Dr. D. A. K. Steele, in the Chair; Dr. Liston H. Montgomery, Secretary.

Malignant Disease of the Thyroid Gland.—Dr. C. E. Webster reported the case of a woman, sixty years old, whose general health was quite good, but who had first noticed an enlargement of her neck about a year before she first consulted him. It began in one lobe of the thyroid, and extended rapidly to the adjacent glands and tissues of the neck. When she was first seen, swallowing was difficult and her voice was husky, although her breathing was not impeded. The thyroid gland, the larynx, the trachea, and the neighboring cervical glands formed an irregular doughy mass. The diagnosis lay between tertiary syphilis and cancer of the thyroid, but it was made easy by the history of the progress of the growth from an enlargement of the thyroid, and by the fact that such growths after middle life were almost invariably malignant. The steady progress of the disease under a short course of anti-syphilitic treatment confirmed the diagnosis, and the patient had recently died of exhaustion. The microscopical appearances of such growths were sometimes peculiar, hardly differing from those of benign tumors of the same organ, so that it was often difficult to decide upon the nature of the neoplasm from those appearances alone. A case in point was cited from the service of the Massachusetts General Hospital, in which the alveoli were lined with cuboid cells and filled with a homogeneous substance.

Dr. F. Carey asked where the cells were in the latter case, if the alveoli were filled with a homogeneous substance.

Dr. L. H. Montgomery asked about the dimensions of the tumor, whether it extended uniformly in all directions, and if the speaker had any theory as to the functions of the thyroid. Might not the organ be situated over the trachea for purposes of protection, or did it act as a sort of reservoir, like the spleen?

Dr. E. J. Doering asked if removal of the mass would have been justifiable.

Dr. Webster stated that, in the hospital case referred to, the lumen of each alveolus was filled with a homogeneous substance, and the cells were arranged peripherally. When he first saw his own patient the disease had progressed to such a stage that, had an operation been undertaken, it would have been impossible to complete it, as the deep tissues of the neck, including the œsophagus, were involved in the growth. The tumor of the thyroid was as large as half a hen's egg, and a doughy mass extended in all directions. He had no theory to offer as to the function of the thyroid gland.

Tape-Worm in a Child.—Dr. C. G. Davis read a report of a case of *Tænia solium* in a child two years old, and showed about four inches of the worm, including the head. On the 10th of December, when he first saw the child, it had not quite recovered from an attack of entero-colitis that had lasted through the summer and autumn; it still occasionally had the usual symptoms of "summer complaint." A number of simple remedies were given, together with raw beef, and this treatment seemed to be effectual, but portions of tænia soon began to appear in the discharges, and half a teaspoonful of a French preparation of pelletierine was given, followed in an hour by twenty drops of tincture of jalap and a tablespoonful of castor-oil. This was followed by the expulsion of three or four yards of the worm, but the head was missing. The child was then carefully nursed, and its general health looked after, when segments of the worm again appeared in the evacuations. A double dose of the pelletierine, jalap, and castor-oil was then given, and several feet more of the worm were discharged, including the head, which was now exhibited.

Dr. Doering alluded to three cases of tænia that he had treated in children, the youngest of whom was only six months old and had been fed on raw beef while sick with entero-colitis. He was surprised at the results that had followed the treatment in Dr. Davis's case, for he himself had used much larger doses of pelletierine, with only partial success.

Hygroma of the Tongue.—Dr. Josef Zeisler related the case of a girl, nine years old, the right side of whose face was much more developed in its osseous and muscular formation than the left side. The surface of the tongue was covered with cysts, varying in size from that of a pin-head to that of a pea, and there was a collection of like vesicles on the mucous membrane of the right cheek, near the angle of the mouth. There was also a crested formation running along the middle line of the dorsum of the tongue, of a caruncular appearance. The movements of the tongue and the faculty of speech were not impeded. The speaker regarded the case as one of colloid degeneration of the mucous membrane, but he could not classify it precisely, having never seen another like it. The only treatment suggested was galvano-puncture of the cysts. A microscopical examination was not allowed. Dr. E. Andrews, Dr. C. T. Parkes, Dr. J. N. Hyde, and several other well-known physicians had seen the patient, but none of them had ever seen a case of the sort, and they could make no further suggestion in regard to treatment. Two like cases were to be found in literature.

The Comma Bacillus.—Dr. L. L. McArthur showed specimens of Koch's cholera bacillus. He considered that, thus far, Koch had successfully met all opposition to his theory of the causal relation of the bacillus to Asiatic cholera. The specimens shown were from Koch's laboratory, having been sent by Dr. Betz, of Tübingen, to Dr. Doering.

PHILADELPHIA LARYNGOLOGICAL SOCIETY.

Meeting of January 23, 1885.

The President, Dr. Charles E. Sajous, in the Chair.

On the Substitution of the Preparations of Coca for Cocaine.—Dr. Louis Jurist read a paper with this title. [See page 248.]

Dr. S. Solis-Cohen said that Dr. J. Solis-Cohen and he had used fluid extract of coca for three years for irritative conditions of the throat, but had abandoned it two years ago for aconitine oleate, which they had found more efficient. Coca, both locally and internally (in the form of wine), was still used, by those complaining of fatigue, "tired throats," with apparent benefit. Recently he had used an instillation of the fluid extract on himself during an attack of acute coryza. Intense burning followed of a few minutes' duration, the relief then obtained being equal to that afforded by cocaine. He had supposed the irritation due to the alcohol in the fluid extract, but an infusion produced the same temporary irritation. Coca with chocolate, in the form of lozenges, had proved somewhat useful in facilitating the examination of sensitive and irritable throats, but not nearly so satisfactory as cocaine. In acute amygdalitis coca had relieved the pain, but guaiac seemed equally good. Dysphagia, in a case in which only inflammation of a few glands low down on the lateral wall of the pharynx could be detected, yielded at once to the infusion of coca. That day he had applied the infusion to the vault of the pharynx after the removal of adenoid vegetations, with prompt relief of the pain. In a hay-fever subject, having bilateral posterior hypertrophy of the middle turbinated tissues, while probing the unanæsthetized nasal passages produced, when the probe touched certain spots, paroxysms resembling that of the disease, after the application of a ten-per-cent. solution of cocaine hydrochlorate, such manifestations were not noted. The sensation of contact in the patient, however, was but slightly diminished. The same lady complained on two occasions, once after the use of cocaine as above, the other time after the use of infusion of coca, that for two or three days following the application she suffered with a mild coryza.

Dr. Sajous had found the infusion very efficient in overcoming hyperæsthesia and facilitating examination, but had not found that it influenced reflex spasm. He had also relieved the pain of acute amygdalitis by using the infusion four times, at intervals of five minutes, the relief lasting four or five hours. He had also used bougies containing cocaine with good results in hypertrophic rhinitis. They were introduced three times daily, and left *in situ* five minutes at each sitting.

Dr. A. W. MacCoy had used fluid extract of coca as a gargle in acute inflammations, and found the effect heightened by the addition of bromide of potassium. He recommended the lozenges as being convenient and palatable, and considered their use frequently indicated. Cocaine, particularly in galvano-caustic operations in the pharynx and pharyngeal vault, he could heartily recommend without any qualifications. He had found that cocaine prevented the turgescence which so frequently occurred after the use of the hot knife in the nose, particularly if an application was made both before and after the operation. Cocaine controlled both shock and inflammation. The most economical method of application was on small pledgets of cotton.

Dr. Sajous had also observed that galvano-cautery applications, made when the membrane was under the influence of cocaine, were not succeeded by the inflammatory symptoms which usually followed. This was especially exemplified in a case in which the cautery had produced severe coryza three successive times; a fourth application, made after using the cocaine, did not give rise to the least inflammatory symptoms.

Dr. Jurist, in closing the discussion, said that, from the remarks of those present, as well as from his own personal experience, it could safely be maintained that the local use of coca would be much extended. Although by no means so markedly anæsthetic as its active principle, and not at all likely to replace it in operative procedures, its cheapness would make it available in many cases, and ointment of coca could probably be made useful.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of February 16, 1885.

The President, Dr. Charles A. Leale, in the Chair.

The Protective Treatment of Open Wounds was the subject of a paper by Dr. Theodore R. Varick, Surgeon-General of the State of New Jersey. [See p. 236.]

Dr. Detmold had advocated the same practice during his whole professional career, with one exception, namely, that he had applied cold water, or water at the ordinary temperature. There was one question concerning the protective power of the coagulated albumin of blood, and that was, whether the same result would not be accomplished if the coagulation was brought about by some other means than hot water—whether protection to the open wound would not be secured if cold water was applied. Perhaps, if some of the beef-tea had been placed in test-tubes and covered with linen coated with blood-serum not exposed to heat, it would have been equally well preserved. He agreed with the author in condemning carbolic acid and other so-called disinfectant applications, and had never used them himself. He had never seen any sepsis in private practice, except in localities where air and its so-called contained nuisances, whether animal or vegetable, had least access; that was in wounds about the genital organs, where there was loose cellular tissue and, consequently, less opportunity for sealing of the mouths of open vessels. Internal urethrotomy, for instance, was much more liable to be followed by sepsis than external urethrotomy, and yet, in the former operation, the exposure to the air and its supposed germs was much less. He further believed that the blood-poisoning said to be due to germs which pus carried into the general circulation was not due to germs at all, but rather to the pus itself. He was not yet a convert to the germ theory. He was so far from indorsing antiseptics that he even dispensed with the drainage-tube, on the principle that a wound should be free of all foreign substances. Even the application of pure water to the wound might be carried to excess; it should never be used in sufficient quantity to produce maceration of the tissues.

Dr. Varick, in reply to the question proposed by Dr. Detmold, said the physiologists told us that albumin outside of the body remained fluid until coagulated by heat or some coagulating substance, and when no coagulating agent was applied the change was more one of desiccation than of coagulation. He was not prepared to say whether the change which it underwent by the influence of cold would not afford a protective equally efficient as if heat had been applied; but, if there was anything in the theory that germs caused septicæmia, pyæmia, etc., the sooner the albumin could be coagulated upon the surface of the wound, stopping up the entrance to the capillaries, the better; if possible, it should be done before the outward flow of the fluids ceased. There was no quicker way of inducing coagulation than by the application of hot water.

Dr. Gouley thought it had been generally agreed by surgeons that it was desirable to bring about coagulation of serum upon the surface of open wounds, whether the object was to prevent contamination of the wound or to promote more rapid union. Some years ago he applied to the surface of open wounds a solution of chloride of zinc, after the formula of Dr. Pancoast, of Philadelphia, the object being to effect the same result which Dr. Varick obtained by a much simpler means, namely, the application of hot water. Dr. Gouley had fancied that this treatment gave very good results, but it had been a long time since he had employed it. It was true, there occurred a certain number of cases of septæmia, pyæmia, or septicæmia, but he regarded such a blood-poisoning as being due more to profuse hæmorrhage than to the introduction of foreign substances, such as germs, into the circulation. He had not yet become a convert to the germ theory. While he believed that profuse hæmorrhage was the most frequent cause of septæmia, still there were cases of large destruction of tissue which led to rapid changes and decomposition throughout the whole animal economy, even before sufficient time could have elapsed for the development of germs as the cause. He could not take his seat without expressing his delight at the fact that Dr. Varick had so freely condemned the carbolic-acid and corrosive-sublimate mania. He believed that more lives had been destroyed by the use of carbolic acid than could possibly have been saved by it. He mentioned a case in which the surgeon himself had been poisoned while using it in the form of the spray during an operation. Hæmaturia frequently occurred in the wards of the hospitals as a result of the use or abuse of carbolic acid in the dressing of wounds. While all of them, Dr. Varick and the rest, were antiseptists, they were not Listerists.

Dr. C. S. Wood said that during the civil war Listerism was either not known, or was not practiced, and yet the circumstances which were alleged to demand it at present also existed then. If septicæmia and gangrene occurred, they could be traced to something else than agents which Listerism was intended to give protection against. To profuse hæmorrhage he would add depressing mental influences. This was illustrated at the battle of Gettysburg, where Union soldiers, under the influence of victory, recovered from their wounds with fewer accidents than the Confederates, who were depressed by defeat.

The President thought the microscope would aid in enabling us to understand the wonderful success which Dr. Varick had obtained. After the application of hot water to the wounded surface the fibrin was immediately coagulated, becoming a coating which effectually occluded the vessels, and thus kept out the germs (which so many believed in as the cause of septicæmia) in the readily decomposing blood corpuscles. Water at the ordinary temperature would not answer. The author's success, he thought, would have to be accepted as evidence of the truth of his explanation of the non-occurrence of blood-poisoning in his large surgical experience.

Dr. Varick referred to a paper which he read before the Surgical Section of the American Medical Association last May, and said that major amputations were taken as better illustrative of the principle of treatment which he adopted than any other form of wounds. He then briefly enumerated the major amputations recorded in that paper, and added thereto those performed since, making in all, since 1879, thirty-seven, with only two deaths. In one of the two fatal cases death was due to secondary hæmorrhage, the patient having bled to death in his bed at night, and in the other death occurred on the third or fourth day after the operation, from valvular disease of the heart. He thought this result spoke well for the protection afforded against sepsis by the application of hot water. Again, they had in the female wards of the Jersey City Charity Hospital several cases of puerperal fever, and in the male wards eight or ten cases of erysipelas and several cases of chronic abscess; notwithstanding this, he had to do two amputations for railroad injuries, and both patients recovered without an accident. It had been maintained for Listerism that it was a system of cleanliness. This he denied. It was true that the disciples of Listerism would lather and shave the limb of a child four years of age, and use the carbolic-acid spray during the operation, but he had seen, after they removed their protective dressing, as much as a tumblerful of pus which had been allowed to bathe the stump. If that was cleanliness, he did not want any cleanliness.

NEW YORK SURGICAL SOCIETY.

Meeting of February 8, 1885.

Alfred C. Post, M. D., LL. D., President *pro tem.*

Refracture of the Femur.—The Chairman presented a patient, a man twenty-two years of age, who came under his care between two and three months ago. At that time it was five months since he received a fracture of the right thigh at the junction of the second with the upper fourth, having been struck by the paddle-wheel of a steamer, and for which he was under treatment in a Staten Island hospital for several weeks. Dr. Post found great bowing of the thigh, with the convexity outward, and with a shortening of two inches and a quarter.

He sent the patient to the Presbyterian Hospital, where he refractured the bone by means of Rizzoli's osteoclast, loaned to him by Dr. Sands. It was only with a great deal of force that he succeeded in refracturing the femur. He then treated the case with extension by a weight and pulley, the weight being twenty-five pounds. It was continued with side-splints during a period of six or seven weeks. The patient remained in bed two or three weeks longer, when he was allowed to get up, and there was now shortening not to exceed half an inch. There was a little fullness in the region of the callus, but there was no apparent deformity except slight anterior convexity. In refracturing, the bone gave way very gradually, the arch of the limb yielding slowly for some time before mobility was perceived. The patient now stood and walked firmly, and there was nothing in his appearance or movements to indicate that any shortening existed.

In response to a question by Dr. Markoe, Dr. Post said the inflammatory reaction following the operation was no more than after the occurrence of ordinary fracture.

Adeno-carcinoma of the Rectum.—Dr. Gerster presented a patient, a man twenty-seven years of age, who, since he was eight years old, had suffered from prolapse of the anal mucous membrane at each stool. For the relief of this he had used injections of cold water for a very long time, the introduction of the nozzle of the syringe being done with his right hand. During the last year and a half he had noticed frequently more or less profuse hæmorrhage with each passage from the bowel. In November last the patient came under Dr. Gerster's care at Mount Sinai Hospital, where he diagnosticated a tumor on the left side in the posterior portion of the rectum, overlapping somewhat the mucous membrane, but still sessile and ulcerated in the center. It bled on the slightest touch, occupied about two fifths of the circumference of the gut, and extended upward so far that it was just possible to touch healthy mucous membrane with the tip of the index-finger. It was freely movable. It was evidently a malignant growth, and an operation was performed for its removal by, first, making an incision from the anal margin to the coccyx and excising the tip of the coccyx. The sphincter being perfectly healthy, the mucous membrane covering it was dissected up, and then the lower margin of the dissected mucous membrane was included in a purse-string ligature, and the rectum thus occluded. Having in this manner provided against the accidental escape of the rectal contents during the operation, he used the ligature strings as a handle to pull down the gut with, and exsection of the gut proper was begun and continued with careful precautions as regarded the loss of blood, each mass of tissue being secured with a double ligature and division made between, so that there was not more than two ounces of blood lost. Five inches and a half of the gut were removed, including the diseased portion, and fully one inch of the healthy mucous membrane beyond. The gut was then cut through, and sewed to the edge of the incision in the integument with four stitches. Throughout the operation the wound was irrigated frequently and thoroughly with a bichloride solution, 1 to 2,500. Two drainage-tubes were introduced into the bottom of the wound, and the wound was then loosely filled with iodoform gauze. The whole was covered with sublimate gauze, and the outer dressing was removed as often as was necessary to secure cleanliness. The iodoform gauze was allowed to remain until it could be easily removed. There was no shock attending the operation. The temperature remained normal until the fifth day, when there was some intestinal disturbance due to constipation, showing that careful preparatory treatment had not sufficed to clear out the bowels thoroughly. As soon as this was relieved by castor-oil the temperature fell to normal, the wound healed without interruption, and union was complete in about four weeks. Dr. Gerster said he proposed to perform a further operation, with a view to changing the location of the anus, after which the patient would again be presented to the society.

The Chairman asked if any of the members had seen malignant disease of the rectum in so young a patient.

Dr. Keyes had had a case in a young woman upon whom he operated, whose mother at the time of the operation was suffering from the same affection. The daughter was twenty-two years of age when she was operated upon.

The Chairman remarked that he had a brother who died of cancer of the rectum at the age of twenty-nine years.

The Surgical Dissemination of Cancer.—A paper with this title was then read by Dr. Gerster. [See page 233.]

The Chairman asked if, in the application of the Esmarch bandage upon the distal side of a malignant growth in an extremity, the pressure would not have a tendency to propel the cancerous corpuscles toward the trunk.

Dr. Gerster replied, undoubtedly, and said that he spoke only of constriction of the limbs.

Dr. Sands would like to ask Dr. Gerster whether, in the experiments he had made of injecting tumors prior to their removal with some coloring substance which was capable of being transmitted along the lymphatic vessels, he had obtained any results confirmatory of the theory he had advanced in his paper.

Dr. Gerster replied that he had obtained some results which on superficial examination might be declared to confirm his assumption, but, from further and more careful study of the results of other experiments, the value of the former results was placed very much in doubt. In the first case he used an emulsion of India ink, glycerin, and corrosive sublimate, 1 to 1,000, which he injected into the tumor immediately before the operation. On examining the specimen it became doubtful whether the injection had propelled the India ink into the lymphatics, or whether this was done by manipulations incident to the operation. Another thing which raised doubt with reference to the value of the first experiment was the fact that corrosive sublimate arrested protoplasmic action. Dr. Gerster's object was to introduce this colored material so that the embryonic cancer cells, which had an amœboid movement, might absorb, or take into them particles of India ink, and then be carried onward into the tissues. If he had found such a cell far away from the place of injection, it would have been almost conclusive proof. Nothing of this kind, however, was found, because the corrosive sublimate paralyzed the action of the cells. Therefore, in the last two cases he had used a warm solution of salt, 6 to 1,000, and, as the specimens were still hardening, he was unable to report concerning the results.

The object of the paper was to direct attention to the clinical features of the subject, namely, that after operations where insufficient tissue was removed relapses would be established and the disease reappear within four weeks after the operation. It would be most interesting to hear the clinical experience of the surgeons present concerning the disproportionately rapid reappearance of malignant disease, as it had been mentioned especially by the older writers. It was known that formerly operation was discouraged, because it was believed to induce recurrence and extension of the disease.

Dr. Briddon had in mind three or four cases of benign tumors, one in particular, situated in the neck and operated upon by the late Dr. Buck, in which the operation was followed by a disseminated carcinoma of very rapid development. Another case occurred to himself, in which a granular ulceration, probably epithelioma, of the index-finger was operated upon by amputation, and general carcinosis occurred within six weeks, involving the glandular system, and also the abdominal viscera.

His experience with regard to cancer had been that in those cases in which there was infiltration of the tissue immediately surrounding the tumor, or there were nodules of cancer in the vicinity of the tumor, rapid recurrence of the disease had followed the operation. He recalled the fact that several years ago Mr. Arnott, of London, introduced the treatment of malignant growths by compression, and his recollection was that some good was accomplished by the method. At all events, he scarcely thought it increased the rapidity of the growth.

The Chairman referred to the fact that Dr. Batchelder, of this city, introduced the method of treatment by the use of compressed sponges, and in some cases, at least, with apparent good results.

Dr. Sands said that it had been his belief for a long time that in cases of malignant disease, especially of the breast, harm was often done by stimulating applications employed with the object of dispersing the tumor. He had always feared that such applications might prove injurious by exciting hyperæmia of the affected parts and thereby causing a more rapid increase of the swelling. It had not been his experience that operations performed for the relief of cancer had been followed by rapid recurrence unless there was reason to suppose that the morbid growth had not been thoroughly removed. It seemed to him rather that the chance of exemption from recurrence was in a direct ratio to the completeness with which the work of extirpation could be accomplished. That seemed to be the only explanation of some cases in which what was termed permanent cure had been the result of the operation. He had listened with great interest to the remarks made by Dr. Gerster, who had raised an important question, which, perhaps, could be solved more easily by experiment than by clinical observations. As to the actual risk incurred at the time of the operation, it would be hard to decide.

He did not wish to disparage a theory which was both rational and plausible, but he thought it might be doubted whether, during an operation performed for the removal of a malignant tumor, the compression exerted would always exceed that to which it might have been subjected at various times prior to the operation. He could also recall instances in which the removal of the tumor had been effected only with very great difficulty, and with the exercise of considerable force, yet in which the patients had afterward remained exempt from recurrence for a long period. He had presented to the society within the past year a man, about thirty years of age, upon whom he had operated fourteen years previously for fibro-sarcoma of the parotid, necessitating the removal of the entire gland, which was accomplished with great difficulty. Nevertheless, the patient remained free from recurrence for more than thirteen years, when the disease reappeared in the cervical lymphatic glands.

The Chairman thought that incomplete removal of cancerous growths favored recurrence of the disease. Recently he had read an account of removal of a naso-pharyngeal polypus piecemeal; that is, portions at different sittings, until finally the entire growth was removed, and the writer had stated that during all this time there was progressive improvement in the symptoms—a statement which struck Dr. Post as being contrary to the general experience of surgeons in dealing with malignant disease.

Dr. Sands remarked that the settlement of the point in question by clinical observation would be rendered difficult by the acknowledged diversity shown by different malignant growths regarding their tendency to dissemination.

Dr. Gerster said he fully admitted the fact that incomplete operations favored relapses. At the same time there were cases on record in which incomplete operations were said to have been followed by cure, although he had doubted such cases very much. He would like to ask why it was that this recurrent new growth changed its type? Why did the recurrent tumor behave entirely differently from the tumor first removed? It was a common occurrence, even in his short surgical experience. He had noticed that a tumor which had been growing slowly, after it had been operated upon incompletely grew very much more rapidly than it had ever done. Of course, what he had said was only a suggestion of the necessity of continued investigation caused by the desire of drawing attention to a fact hitherto little considered in our efforts to combat such an intractable disease as cancer.

Dr. Sands referred to one well-known circumstance which strongly favored the view taken by the writer of the paper, namely, the usually rapid extension of cancer of the tongue, which had been explained by the great mobility of the organ and its constant movements.

Dr. Markoe said that on the other hand it was to be observed that one of the most rapidly recurrent forms of malignant disease was that which occurred in the testicle, recurring generally within a very short period of time, and yet there was no operation for extirpation in which the tumor was less manipulated, and in which there would be less displacement of cancer-cells or juices than in extirpation of this organ.

Dr. Sands remarked that in such a case it would be difficult to decide whether the dissemination had not already taken place at the time of the extirpation, because the parts in which secondary deposits occurred were so deeply situated along the posterior abdominal wall that, until they had attained a considerable size, they would not be recognizable. He had supposed that this was the reason why the removal of the testicle for malignant disease was so rarely followed by a permanent cure. Occasionally, however, sarcoma of the testicle was followed by exemption from recurrence. He had had one such case, in which the disease had not returned thirteen years after operation.

The Chairman said there was one practice not uncommon, that of puncturing a tumor in cases of doubtful diagnosis as a means of ascertaining its character. It appeared to him that puncturing, if the disease was malignant, had a tendency to increase the malignant growth. He referred to a case in point during one of his terms of attendance at the New York Hospital, that of a tumor in the region of the scapula which had developed quite rapidly, and there was some question as to whether it was malignant or inflammatory. Dr. Post had reached the conclusion that it was malignant. Dr. Mott thought it was inflammatory, and suggested that it be punctured for the purpose of ascertaining whether or not it contained pus. The puncture was made, the operation was followed by great aggravation of the symptoms, and the patient died from the disease. From the time the puncture was made the disease progressed more rapidly than it had done at any time previously. He thought, therefore, if puncture was made it should be in cases in which extirpation could be immediately resorted to, if the diagnosis of malignant disease was confirmed.

Dr. Keyes had had a case quite recently in which the patient had also been seen by Dr. Sands and by Dr. Markoe. It was that of a young man who was born with a mole on his back between the shoulders, which gave him no trouble whatever until he had reached the age of twenty-three or twenty-four years, when another little brown spot appeared within an inch of the original mole, and shortly after became excoriated, began to ooze a peculiar fluid, and looked angry. When Dr. Sands saw the patient he advised removal of both dark spots, one of which had never ulcerated. The father of the patient had a mole in the same location, but it had never given him any trouble. There was no thickening about the brown spot, so that there was no considerable tumor. These tumors were removed in a neighboring city by the patient's surgeon; and within a reasonable number of months afterward there appeared upon the back over the scapula upon the same side a lump, as large as a pigeon's egg, which grew rapidly, together with a tumor in the axilla of the size of a goose-egg. These lumps were manipulated a good deal in the patient's native town, after which he came to New York, where they were again subjected to a great deal of manipulation for purposes of diagnosis. Dr. Keyes supposed the tumors to be a recurrence of the original disease, and advised immediate removal. Dr. Janeway also saw the patient, and so did Dr. Markoe; both confirmed the diagnosis. The tumors were thoroughly removed at the patient's home. Dr. Janeway made the microscopical examination, and pronounced both lumps to be melano-sarcoma. There were no other tumors about the patient's body, he recovered from the operation rapidly, and when he visited Dr. Keyes in November last he was apparently perfectly well. He promised that on the least appearance of any tumor at any part of the body he would report himself, and, inasmuch as he had not returned, nor reported, Dr. Keyes took it for granted that the disease had not recurred.

As to sarcomas of the testicle, Dr. Keyes had removed a number of them, mostly in hospital, and his experience had been that recurrence had taken place generally in the retroperitoneal glands. In one case, however, that of a sea-captain, there had not been seen any recurrence after a number of years.

Dr. Keyes further referred to another case in which he performed a double operation. The disease was situated in the parotid gland. A small nodule which had been under observation for two or three years was removed from the substance of the parotid. A salivary fistula followed, and a great deal of local disturbance ensued, but from all this the patient recovered. On examination microscopically, the growth was found to contain mucoid tissue, round-celled sarcomatous tissue, and certain alveoli packed with cells, which led to the opinion that the growth was undergoing cancerous degeneration, being what was called a composite tumor of the parotid. The tumor was apparently inclosed in an outside shell, with budding portions which were softer than the rest of the mass. There was no recurrence after removal for seven years, and then in the line of the old trouble a new nodule developed, which within one year or eighteen months was larger than the original growth, perhaps as large as the first phalanx of the thumb. Dr. Keyes removed the second nodule in the spring of 1883. It was an exceedingly disagreeable operation, because the patient became partially asphyxiated by mucus in the larynx, it was necessary to perform tracheotomy in great haste to save life, and there was considerable hæmorrhage, etc. He removed the tumor completely, and with it a small portion of the seventh nerve. The patient recovered promptly and completely; and had no recurrence of the growth until about one month ago, when a small nodule developed under the angle of the jaw, about half an inch from the old cicatrix, rather painful and hard, not connected with the immediate site of the old operation. The second tumor was examined by Dr. Welch, who decided that it contained mucoid tissue, and sarcomatous tissue with alveoli packed with cells and branching into the mucoid tissue. Probably the tumor now growing would prove to be a growth analogous to the others which had been removed from the same region.

Dr. Lange recalled one case in which he thought rapid spread of malignant disease was dependent upon surgical interference. The case occurred in the person of a young woman who was operated upon by Professor Esmarch while Dr. Lange was his assistant, for removal of sarcoma of one of the ovaries. The tumor was so large that it was difficult to bring it outside of the abdomen, and it was necessary to crush it in order to remove it. In this attempt a certain amount of its contents got into the peritoneal cavity. Otherwise the operation was readily performed. The tumor was pedunculated, and removed within entirely healthy parts, and there was also no other part of the sexual organs involved. The patient did well for the first two weeks, when nodules could be felt in different parts of the abdominal wall, and, as he recollected, it was not more than two months after the operation when she died from diffuse sarcoma of the peritonæum and sarcomatous degeneration of the entire diaphragm, and also of the diaphragmatic pleura. Dr. Lange had reported the case in 1877 as one which illustrated the spread of malignant disease from the original point, involving the peritonæum and other tissues.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of January 26, 1885.

The President, Dr. Daniel Lewis, in the Chair.

Affections of the Ear influenced by, or dependent on, Malaria and Defective Drainage.—Dr. O. D. Pomeroy read a paper on this subject. The question was one which was beset with difficulties, the chief one being to determine whether symptoms apparently due to malaria might not have been caused by quinine, which was so commonly administered in such cases. He then quoted at considerable length the cases and opinions recorded by various authors, showing that there were cases in which quinine in large doses alone gave relief, and the earlier it was prescribed the more thorough and rapid its action. In some cases relief was obtained by a change of residence. The symptoms were of an intermittent type, usually consisting of chills and fever, tinnitus aurium, more or less naso-pharyngeal catarrh, etc. In several of the cases dampness must have played a part in the production of the inflammation of the ear. Dr. Pomeroy then read letters received from twenty-eight aural surgeons in various parts of the United States and Canada, in reply to questions concerning their experience with ear affections due to malaria. Among those who had responded to his inquiries were Dr. Seely, of Cincinnati, Dr. Blake, of Boston, Dr. Holmes, of Chicago, Dr. Buck, of New York, Dr. Burnett, of Philadelphia, Dr. Anderson, of New York, Dr. Theobald, of Baltimore, and Dr. Jones, of Chicago. The large majority of these gentlemen were disinclined to accept the view that there were cases of disease of the ear due solely to malaria. Some of them had seen cases of aural affections aggravated by malarial surroundings, and had known quinine to be of benefit. Dr. Pomeroy's conclusion was, that malaria and bad house-drainage might have a modifying influence on ear affections, but he could not accept the opinions entertained by the authors he had cited.

Dr. Hackley said that he had been in the habit of giving quinine in cases of ear trouble with malaria. The occurrence of aural troubles from malarial poisoning would probably depend indirectly upon several factors: First, upon pharyngeal trouble extending to the Eustachian tubes; second, upon so-called vaso-motor disturbances; and he supposed there was also an affection of the central organ of hearing from vaso-motor disturbances. But he must confess that in the cases which he had seen he had been unable to say which played the more important *rôle* in the causation of the ear affection, quinine or malaria.

Dr. S. Baruch would enter a protest against the increasing tendency to attribute all simple, as well as complicated, pathological conditions to malaria as the chief ætiological factor.

That there were any cases of malarial ear disease he regarded as extremely problematical. The statistics of the Board of Health of New York showed that many more deaths from malarial disease were reported than would be recognized by any authority; there must, therefore, have been a large number of errors in diagnosis. Because benefit had been derived from quinine in certain cases of ear trouble, it did not prove that they were due to malaria.

Dr. John C. Peters remarked that Dr. Baruch had said that cases of malarial disease were reported in New York in mid-winter, and had cast doubt upon the diagnosis because the best authorities had stated that it could not exist when the temperature fell below a certain point. Dr. Peters would call attention to the fact that water and bad drainage existed under many of the houses and streets in New York during the entire year, and consequently, if the house were kept warm, malaria would be liable to develop. He thought that, when Dr. Baruch had lived in New York as long as some of the older residents, he would be less skeptical with regard to the large number of cases of malarial disease in this city.

Dr. Cranmer mentioned the case of a soldier in Italy who suddenly became completely deaf, and was entirely relieved of the ear trouble within twenty-four hours after the administration of quinine.

Dr. Pomeroy said that he had been very careful not to bring theory into the consideration of this question, but had purposely confined himself to the narration of facts which seemed to have a bearing upon the supposed malarial origin of certain ear affections. He thought he had done well in using the words malaria and bad house-drainage, instead of the word malaria alone, in the title of his paper. The condition of dampness had played an important part in the histories of some of the cases, and where this existed there was liability to catarrhs and general reduction in health, placing the person in a suitable state for the development of ear disease, to say nothing of the influence which malaria might have. We might certainly say that painful affections of the ear were often aggravated, sometimes perhaps almost excited, by malarial and sewer-gas influence.

The Manure Nuisance.—Dr. A. Hadden, of the Committee on Hygiene, read a report on the subject of the manure dumps along the East River. As to any specific form of disease which they might give rise to, the committee hesitated to express an opinion, but as to their general insalubrity there was no doubt. The committee believed that the manure was now being taken away as fast as the present methods of removal would admit of. Several plans had been suggested for lessening the manure nuisance throughout the city, one of which was to wash the material, and use the straw for making paper; another, to destroy it by rapid combustion; and still another, to compress it in barrels at the stables, in which condition it could be preserved for a considerable period of time without being offensive or unwholesome. The latter method was regarded by the committee as the most practicable, and it was recommended to the society to insist upon the health officers adopting this or some other feasible method for lessening, or entirely doing away with, the manure nuisance. The report was accepted.

The Promotion of the Welfare of the Insane.—A communication was read from the secretary of the Society for the Promotion of the Welfare of the Insane, including resolutions which it was desired that this society should adopt, having for their object the obtaining of information regarding the sanitary condition of the insane in the different counties of the State. On motion, the communication was received and placed on file.

The Ability of Members to resign from the County Medical Societies.—Certain members who had not paid their annual dues having offered their resignation, Dr. Piffard made a motion requesting the Comitia Minora to report whether the new law of 1880 repealed the old law of 1828, under which members who expected to continue to practice medicine could not resign from the county societies. Carried.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of January 14, 1885.

The President, Dr. George F. Shrady, in the Chair.

Fourteen Cases of Tait's Operation.—Dr. W. Gill Wylie presented specimens, removed by Tait's operation, from fourteen different women, two of whom died of septicæmia; the others lived, and the majority of them were relieved. Five of the cases occurred in private practice, the remainder in Bellevue Hospital. The ages varied from twenty-three to thirty-three years. There was a history of gonorrhœa in three or four cases, and the disease was suspected in some of the others. Symptoms of hystero-epilepsy and hysteria were apt to be present in cases of catarrhal salpingitis and cystic degeneration of the ovaries, and severe local pain in pyosalpinx.

In reply to a question, Dr. Wylie said that in one case, in which but one ovary was removed, the patient menstruated regularly afterward, and the symptoms were relieved. In one other case, in which both ovaries and tubes were removed, the patient had menstruated regularly, although the operation was done more than eighteen months ago.

Dr. H. C. Coe called attention to the large number of cases in which old peritonitis with adhesions existed, and thought that this in itself would account for the pain. With regard to cystic degeneration of the ovaries, a peripheral cyst might not give rise to symptoms of any importance; it was central degeneration that gave rise to marked disturbance.

Dr. E. C. Wendt had made microscopical examinations in three or four cases of removal of the ovaries for hysteria of supposed malarial origin, and in each instance cystic degeneration was found, but in none were the hysterical symptoms relieved. Small cysts of the ovaries were not of much pathological significance; they were quite common in subjects examined at the dead house, although no symptoms of ovarian trouble had been present during life; they were present in the large majority of the lower animals.

Removal of the Lower Jaw.—Dr. John A. Wyeth presented a boy from whom he had exsected the larger portion of the lower jaw on the left side seven or eight weeks ago, as he had described at a previous meeting. He also mentioned a case of cleft palate, in which the patient was cocainized and experienced no pain during the operation.

Meeting of January 28, 1885.

The President, Dr. John A. Wyeth, in the Chair.

The Temperature in Cases of Cerebral Hæmorrhage.—Several specimens for candidates were presented by Dr. Janeway and Dr. Carpenter. In some remarks following the presentation of the specimens Dr. Seguin asked Dr. Janeway whether he had found the rule laid down by Charcot, that in cerebral hæmorrhage there was at first lowering of the temperature, with subsequent elevation, to be true in practice.

Dr. Janeway replied that in the cases in which he had tested this point the patients had recovered, and he was consequently unable to decide positively what was the exact nature of the lesion within the brain. He thought, though, that rules which were based on theory would always find, sooner or later, facts which would falsify them.

Dr. Seguin had accepted the rule until recently, when he met with a case which threw doubt upon it. A man had a hemiplegic attack with loss of speech, and there was a depression of the temperature followed by a rise. On this basis a diagnosis of cerebral hæmorrhage was made. The patient got better, but subsequently had another attack which caused death. At the autopsy the cerebral trouble was found to be due not to hæmorrhage, but to thrombosis of the middle cerebral artery at the seat of a syphilitic endarteritis.

Myxo-Sarcoma of the Thumb following the Sting of a Wasp.—Dr. Prudden presented the thumb of a man sixty-five years of age, which had been removed for myxo-sarcoma developing after the member had been stung by a wasp. The disease did not involve the bone.

A Salivary Calculus was shown by Dr. Seguin, the large size of which made its spontaneous extrusion somewhat remarkable.

Kidney Disease and Pleurisy with Obscure Signs.—Dr. Beverley Robinson presented specimens and related the history of a patient who was forty-four years of age, and entered St. Luke's Hospital November 26, 1884, having, three days after exposure to wet, been taken with a chill, followed by fever and severe pain upon the right side of the chest. The expectoration became tenacious, at times stained with blood. The urine was of a specific gravity of 1·013, but was in other respects nearly or quite normal. Over the right lung posteriorly, as high up as the spine of the scapula, there was bronchial respiration; over the upper portion of the lung there were bronchial *râles;* inspiration was imperfect. The base was resonant, but just above it there was absolute flatness. The respiratory murmur was exaggerated over the left lung. The patient died on the 28th. At the post-mortem, old pleuritic adhesions were found over the right lung. Near the right base was about a pint of purulent fluid. There was chronic diffuse nephritis. One point of interest was the apparently normal condition of the urine, with the exception of low specific gravity, while marked kidney lesions existed. In his experience this was not of infrequent occurrence. He regarded a continued low specific gravity of the urine as pointing to chronic renal trouble, although the microscopic and chemical tests might be negative. Another point of interest was the difficulty of differentiating between pneumonia and pleurisy. The text-books were in error when they laid down as a very general law that in considerable pleuritic effusion there was diminution or loss of thoracic resonance, or of vocal fremitus. It had been shown that the sound-conducting power of fluids depended to some degree upon their nature.

Dr. Janeway remarked that about ten years ago he wrote an article, giving some exceptions to the rules generally laid down. He had seen cases in which the vocal fremitus was preserved notwithstanding an increasing amount of fluid in the pleural cavity. Again, he had sometimes observed an error in not noting the exact point at which the vocal fremitus became changed. He saw no reason why it should be preserved over fluid unless the chest-walls were more resonant than usual. As to the difficulty of diagnosticating kidney lesions by examination of the urine, it was important to exercise care in searching for casts. It was also an error to suppose that because a patient had the signs of the small kidney he was positively in a dangerous way. He knew of some patients who had carried the evidences of atrophied kidneys for many years—in one case there had been albumin and casts in the urine for fifteen years. There were some instances of small kidney which troubled one to make the diagnosis because of absence of low specific gravity and increased quantity of the urine. In one which he recalled, the patient had gouty symptoms and obscure brain trouble. Small granular kidneys were found, which had not been suspected; the urine had been examined from time to time, and was never known to be of low specific gravity.

Fusion of the Radius and Ulna.—The President showed a little girl who was unable to supinate and pronate the forearms, the other movements being normal. The hands always faced downward. The deformity was apparently due to a fusion of the shafts of the ulna and radius having taken place *in utero.*

New Inventions, etc.

A NEW AURAL FORCEPS.

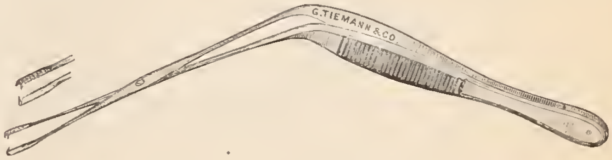
By Read J. McKay, M. D., Wilmington, Delaware,

MEMBER OF THE AMERICAN OTOLOGICAL SOCIETY.

For years past, while engaged in daily office practice, I have often felt the need of an improvement in the aural forceps which none to be found at the instrument-makers' seemed to supply.

I have often wished to remove layers of epithelium and other accumulations to be found attached to the walls of the external auditory canal, and none of the aural forceps seemed to be especially adapted to such work.

A year or two ago I met Mr. Stohlmann, of George Tiemann & Co., of New York, and gave him verbally my ideas about an improvement in the aural forceps. After several trials, he has most satisfactorily accomplished my wishes in making a new and improved forceps, which is here shown.



I requested the new forceps to be made small and strong, with the finest smoothness of finish, and to have a double row of fine teeth (with a linear groove between them) extending along both of the jaws, beside the larger teeth at the ends of the jaws. This was for the purpose of taking a firm hold with the sides of the jaws of the slightly detached edge of clinging epithelium or other substances attached to the walls of the external auditory canal, and loosening it by pulling toward the opposite side of the canal from any direction, and thus to remove it.

Believing this new and improved aural forceps possesses, in the highest degree yet attained, the various requirements of *smallness of blades*, so as to be readily used through the aural speculum, and *great strength of blades, with sufficient teeth* to hold firmly whatever is grasped, I herewith present it to the profession, hoping it may be found more or less useful.

Miscellany.

The State Board of Health of West Virginia.—We regret to learn that the board is to lose the services of so excellent an officer as its secretary, Dr. James E. Reeves, of Wheeling, who has resigned on account of the state of his health. It is gratifying, however, to be able to record such appreciation of Dr. Reeves's labors as is shown in the following extract from Governor Jackson's letter accepting the resignation: "I greatly regret that the condition of your health compels you to take this step. You have been identified with the board from its organization until the present time. Its objects have been not only, by investigation and proper action based thereon, to promote the public health, but also to elevate the standard of the medical profession in the State. To these objects, I am aware, you have devoted a large share of your valuable time, aided by a ripe experience in medical and sanitary science. Your labors in conjunction with the other members of the board have raised the standard of the profession to a higher plane than before attained by it, and, through the operation of our health laws, placed our State on advanced ground in the development of sanitary science. I had hoped that your valuable services would have been continued at least until the end of your term, and until this department of our State service had become so firmly established as not to be endangered by the loss of so efficient an officer. In accepting your resignation, it is with the hope that your health may be speedily restored, and that you may, from time to time, by your counsel, aid the board in carrying forward the great work for which it was created, so that the objects which you have had so much at heart may be fully realized and result in lasting good to the people of West Virginia."

The late Dr. Louis Elsberg.—At a meeting of the members of the medical profession in attendance at the New York Polyclinic, the following resolutions were this day (February 21st) unanimously adopted:

Whereas, In the inscrutable providence of God, Professor Louis Elsberg has been removed from this life,

Resolved, That in his death science has lost an earnest and indefatigable student, the medical profession an honorable member and widely-known teacher, and society one with broad and humanitarian sympathies.

Resolved, That we offer to his family assurances of sympathy, and, as a testimony of our regard for his character and attainments, and a sense of our personal loss in his death, that we, the members of the class of the New York Polyclinic, attend the funeral in a body.

Resolved, That copies of these resolutions be sent to his family, to the faculty of the New York Polyclinic, and to the medical press of this city.

[Signed] Eugene L. Fridenberg, M. D.,
J. T. Herrick, M. D.,
W. T. Gott, M. D.,
J. C. Berry, M. D.,
Committee on Resolutions.
M. T. Moore, M. D., *Chairman*,
Moses T. Runnels, M. D., *Secretary*.

THERAPEUTICAL NOTES.

Nepaul Aconite in the Treatment of Chilblain.—Cullimore ("Lancet") speaks highly of a tincture of *Aconitum ferox* (one part of the root to ten of proof spirit) as a local application in cases of chilblain. He directs that the tincture be painted over the inflamed spot "for a quarter of an hour on four different occasions in the course of an evening." He has also used hydrochlorate of cocaine for the same purpose, but regards it as inferior to the aconite.

Piscidia Erythrina.—Legoy, to whose elaborate paper ("Bull. gén. de thérap.") we have before alluded, concludes that piscidia exerts a direct stimulant action upon the central nervous system, exciting principally the medullary centers. The increase in the number of the heart-beats is probably due to this action upon the gray matter, and the rapid respiration may be explained in the same manner. He recommends the drug as a valuable remedy in neuralgia, in doses of from forty-five to sixty grains. The following are suggested as convenient formulæ:

Fluid extract of piscidia	5 drachms.
Syrup, Water, } each	12 "

Dose, one or two tablespoonfuls daily.

Tincture of piscidia, Tincture of *Viburnum prunifolium*, } each	50 drops.

For a single dose.

Ignipuncture applied to the Cervix Uteri.—Gonzalès (Thèse de Paris; "Bull. gén. de thérap.") has made a number of observations with regard to the efficacy of this mode of treatment, and his deductions are as follows: Ignipuncture is recommended in subacute and chronic endometritis, subinvolution, and hypertrophy of the cervix; it is contra-indicated in acute endometritis, cellulitis, and diseases of the ovaries and tubes. It is supposed to have an alterative effect—"it modifies the vitality of the uterine tissue." Paquelin's cautery is the instrument recommended. The punctures vary from six to eighteen or even twenty-five (?) in number, and should extend only to the depth of a few millimetres. Immediately after cauterization a vaginal injection should be given of a weak solution of picric acid (1 to 10,000), and a cotton pad soaked in picric acid and glycerin (1 to 100) should be applied.

Diethylacetal.—Fürbringer ("Centralbl. f. klin. Med.") speaks of this new remedy, which has frequently been given for insomnia, in doses varying from seventy-five grains to four drachms, as, on the whole, unsatisfactory,

Pixene in the Treatment of Pruritus Vulvæ.—Locke, in a letter to the "Lancet," recommends the following lotion for pruritus of the vulva:

Pixene	2 drachms;
Glycerin	4 "
Water	6 ounces.

Neale, writing in the same journal, recommends a saturated solution of boric acid.

Carbolic Acid in the Treatment of Diphtheritic Paralyses.—Bernier ("Gaz. des hôp."; "Arch. f. Kinderheilkunde") states that, since diphtheritic paralysis is due to the absorption of a poison into the system, the use of an appropriate antidote may prevent its action. He thinks that the paralysis begins in the stomach, and therefore recommends the internal administration of crystallized carbolic acid, in doses proportioned to the patient's age. The acid is regarded as possessing properties as a nerve-stimulant as well as being a germicide.

Bi-hydrobromate of Quinine.—Maximowitsch ("St. Petersb. med. Wochenschr.") has used this compound in a number of acute diseases, and speaks enthusiastically of its sedative and antipyretic properties. He states that in serious cases of pneumonia, typhoid fever, small-pox, etc., after the administration of from ten to twenty grains the temperature fell as much as a degree, and the pulse from ten to thirty beats, and that these effects continued for several hours. The action of the hydrobromate on the nervous system was still more striking, since the patients, within an hour after taking the dose before mentioned, passed from a state of active delirium into a profound slumber that continued for several hours. No unpleasant after-effects, such as deafness, were noticed. The writer states that this preparation of quinine may be given just as well subcutaneously, in doses of from three to five grains, the only disadvantage being slight pain and redness over the site of the injection.

The Cocaine Fungus.—Fenwick ("Lancet") calls attention to the fact that a mold may form in a four-per-cent. solution of cocaine which is liable to cause inflammation in mucous membranes. He recommends strict attention to antisepsis whenever the drug is used. It is stated that this mold does not appear in stronger solutions, such as those of twenty per cent.

A Diuretic Mixture.—Dr. Joseph Mullone, of Lyons, Ind., writes to us that he has treated a number of severe cases of anasarca, most of them of distinctly malarial origin, and has been much pleased with the action of the following formula:

Compound spirit of juniper	1 pint;
Sulphate of iron	2 drachms;
Acetate of potassium	½ ounce;
Fluid extract of digitalis	2 fluidrachms;
Syrup of squill	½ fluidounce.

Dose, a tablespoonful three times a day. In severe cases the patient is to drink also a cold infusion of elder root.

Platt's Chlorides.—In a recent conversation, Professor Alfred L. Loomis remarked that chloride of zinc had maintained its long-established reputation as a disinfectant, as was shown in Miguel's classification. Sulphurous acid and chlorine were powerful germicides, beyond question, but their every-day use was impracticable, and the bichloride of mercury, although it might be the most potent of all the agents that were chiefly talked about, was hardly to be considered safe for domestic use. But the preparation known as "Platt's Chlorides" (a solution of the chlorides of zinc, lead, calcium, and aluminium), which he had made use of freely for the past five years, both in his own house and among his patients, he considered as by far the best for all the sanitary requirements of the household.

THE NEW YORK MEDICAL JOURNAL, March 7, 1885.

Original Communications.

PISTOL-SHOT WOUND OF THE STOMACH.*

By JOHN H. HINTON, M. D.,
CONSULTING SURGEON TO THE PRESBYTERIAN HOSPITAL.

The case of pistol-shot wound of the stomach which I am about to narrate came under my care at the Presbyterian Hospital on February 12, 1884, and, from the fact that there are but few reported cases of recovery from wounds of the stomach, and possibly no other on record in which the stomach was actually shot through, I venture to give the case somewhat at length, with a consideration of the literature of the subject. That the case was considered as very grave may be inferred from the fact that two of my associates suggested laparotomy, and that all gave an unfavorable prognosis.

The subject of the injury was a young man about twenty-one years old, blonde, five feet eight inches high, and weighing about 155 pounds, who was shot in the back at an elevated railroad station a few minutes after his breakfast, at about 8.30 A. M. He immediately fell upon the floor, and was thence carried to a station-house one square distant, and from there was taken carefully to the hospital in an ambulance. On admission, his condition was fairly good, without much shock. An inspection of his coat showed it to be blackened or burned by the powder, from the nearness of the muzzle of the pistol to his back. An examination of the body showed a wound over the tenth rib, about five inches to the left of the spine. In front, under the skin, the ball could be felt, about two inches from the median line, and about three inches from the umbilicus. The wound behind was closed with adhesive plaster. Urine was drawn off, but showed no signs of blood. About thirty minutes after admission he began to vomit dark clotted and fluid blood mixed with food. Cracked ice by the mouth was given, and a hypodermic of Magendie's solution, ♏ v, and ergotin, gr. v, in water. He showed no signs of collapse, and expressed himself as feeling well.

In about three hours after the shooting I removed the ball from under the skin, and determined, by the point of the little finger, that the ball, a conical ·32 caliber, had passed through the cartilage underneath, showing conclusively, together with the food and blood vomited, that the ball had passsed through his body, and in its course had passed through the stomach. Flaxseed poultices were applied over the anterior and posterior wounds, and he was ordered to have no food by the mouth, but only enemata of milk every four hours. During the day he vomited blood four or five times, but showed no symptoms of collapse. In the evening had a hypodermic of Magendie's solution, ♏ x. Was restless during the night, but had no pain. Temperature 101° F., pulse full and strong and 120.

February 13th, 6 A. M.—No pain, but restless. Magendie's solution, ♏ x, hypodermically. 9 A. M., pulse 120, respiration 23, temperature 101°. Had an enema of warm milk. At 1 P. M., the same. 2.30 P. M., vomited about ℥ iv of dark fluid blood. Pulse 120 and strong. Ordered tinct. aconit. rad., ♏ ij, every two hours.

14th.—Slept most of the night after a hypodermic of morph., ♏ xv. At 3 A. M., vomited about a half-pint of blood. About noon had a large movement from the bowels, consisting of fæcal matter with blood, looking like tar. Aconite continued. Evening, temperature 101°, pulse 107, respiration 20. Has had milk enemata through the day.

15th, 9 A. M.—Slept about five hours last night after a hypodermic of morph., ♏ xv. Pulse 108, respiration 17, temperature 100°. Has slight pain in the anterior wound and tenderness in iliac fossa, probably from flatus. To-day some beef-juice and eggs were added to his milk enemata. Had a loose fæcal movement without blood. Tongue dry and covered with a brownish fur, but general condition very good. When the patient was first received he was placed in a room on the north side of the hospital; to-day he was removed to a room with a southern exposure. 7 P. M., feels sore generally; thinks it due to the moving. Pulse slightly dicrotic and 108. 10 P. M., pulse 110, respiration 17, temperature 102°. Complains of general abdominal soreness. Hypodermic of Magendie's solution, ♏ xv.

16th, 2 A. M.—Awake and restless. Has no pain whatever. Magendie's solution, ♏ xv. 9 A. M., pulse 108, respiration 17, temperature 101·5°. No pain or abdominal tenderness. Both wounds discharging pus. Was allowed to-day milk, ℥ j, and Apollinaris water, ℥ j, every hour. Loose movement from the bowels; no blood. 7 P. M., pulse 100, dichrotic; respiration 20, temperature 101·8°. 10 P. M., morph. hyp., ♏ xv.

17th, 3 A. M.—Restless; can not sleep. Was given a hypodermic of morph., ♏ xv. 9 A. M., has had some sleep. Pulse 107, respiration 17, temperature 101·2°. Feels rather weak, and complains of hunger. Was ordered strained *bouillon* in addition to milk, ℥ j every hour. General condition good. From this date on, the daily record gives a temperature not above 103° to February 25th, when it is marked at 99°, with respiration 16, and pulse 86. He has had hypodermics varying from xv to xx ♏, to induce sleep. Absorbent dressing was applied on the 20th inst. His bowels have been relieved spontaneously almost daily. The food taken by the mouth has been well borne. The nutrient enemata were stopped on the 18th inst.

March 2d.—Sat up to-day for the first time. Has been doing well. Has had a hypodermic, ♏ x, each night to induce sleep.

5th.—Doing well. Wounds not quite healed. Has slept the last two nights without morphine.

15th.—Since last note patient has steadily gained strength. Has been up and about the building every day. Temperature, respiration, and pulse normal. Wounds not yet covered with epidermis. To-day allowed to go out on the street to walk. Weight shows a loss of twenty pounds; present weight 133½ pounds.

25th.—Continues to do well. Appetite and digestion very good. Has gained ten pounds in the last ten days, by actual weighing. Makes no complaint whatever. Drives and walks daily. Wounds have completely healed, with the integument slightly attached to the tissues beneath, but not enough to impede movements of the body or to produce any discomfort. Left the hospital to-day apparently well, and has remained well up to the present time.

The points which I wish to emphasize in the report of this case are, that there was no meddlesome surgery indulged in, or anticipatory drugging employed; and that the patient was not deluged with opium to prevent peritonitis. The stomach had entire rest for about four days, feeding being done through nutrient enemata. Morphine was used only to induce sleep at night; beyond this he had but a few doses of aconite tincture, and toward the end two or three saline draughts. His food was carefully chosen, with which a little light wine was taken. He was placed in a room with a southern exposure—a matter of great importance in the management of a grave case in the winter season.

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* Read by title before the New York State Medical Association, November 20, 1884.

There is not the slightest reason to believe that the ball did not pass through both walls of the stomach; but, the wounds being small and closing quickly, no food or blood passed into the peritoneal cavity. That we might in some wise simulate such an injury, I directed my house surgeon to fill the stomach of a cadaver with water to about the bulk of an ordinary breakfast, and then to shoot it from behind. The ball entered the body at about the same place as in the case related above, and, upon the dissection that followed, it was shown that it passed through both walls of the stomach and lodged in the anterior abdominal muscles. The posterior wound of the stomach was guarded by a valvular flap of mucous membrane, preventing the escape of fluids. The anterior wound had no flap, as might have been supposed, the mucous membrane being driven in ; yet the wound was almost closed, which, in all probability, would be the case in living tissue.

Professor F. H. Hamilton, writing of these cases, says: "The recorded examples of recovery after this accident are very few. The case of Alexis St. Martin, on whose person Dr. Beaumont, of the United States Army, made his famous experiments upon the gastric juice, is well known to the medical profession.*

"Dr. De Witt C. Peters, U. S. A., has also reported the case of a soldier wounded, September 13, 1862, by a pistol-ball. For two months the stomach discharged its contents through the wound, but finally closed without surgical interference, and his recovery was complete." † This case is also reported in the "Medical and Surgical History of the War of the Rebellion." I shall refer to it hereafter.

Professor Hamilton also writes: "The fatality of these accidents is even much greater than that of similar wounds of the intestines. Probably not one in fifty recovers, perhaps not one in a hundred" ("Military Surgery," p. 358).

In the "Medical and Surgical History of the War of the Rebellion," second part, surgical vol., chap. vi, p. 44, is recorded as follows: "Gunshot Wounds.—Not less than nineteen cases of recovery from alleged shot-wounds of the stomach were reported. The evidence in each instance has been examined, and the inferences are that in some cases the diagnosis had no foundation, and the erroneous returns were due to culpable carelessness or ignorance, the term stomach being sometimes employed by simpletons apparently as a euphuism for belly; that, in other cases, hospital surgeons or pension examiners have related and indorsed the narratives of patients, and described as facts events which, if they ever occurred, transpired long before the patients came under their observation, and are destitute of corroborative evidence; that, in a few instances, recovery followed injuries which careful and competent observers pronounced to be shot-wounds of the stomach; finally, that, even in the latter small category, not more than *one* incontestable example of recovery was recorded. Careful investigation of the recorded symptoms and progress of the six following cases has failed to elicit any evidence in corroboration of the diagnosis of 'severe gunshot wounds of the stomach,' with which they were reported. None of the names appear on the Pension List." Of Dr. Peters's case, referred to before, it says: "The following case, reported by Assistant Surgeon D. C. Peters, U. S. A., has been adduced as an irrefragable instance of recovery from a shot perforation of the stomach. It will be observed that there is no other evidence of the gastric extravasation and of the hæmatemesis than the patient's statement. It is noticeable that Assistant Surgeons Du Bois and MacKenzie, who successively had the patient in charge, made no note of these remarkable features." Then follows Case 185, which is Dr. Peters's case. Case 187 is that of Private Patrick Sweeney, 7th N. Y. Cavalry, aged twenty-one years, who was shot in a quarrel in Washington about midnight, January 4, 1862. This case (187) is, however, preceded by the following note: "The next observation (case observed) is important because the symptoms immediately following the injury were observed and recorded. Unfortunately, the reporter suffered an interval of four years to elapse before placing the case on record. It may be ungracious to deny the exactness of his diagnosis, which, indeed, furnishes the most plausible explanation of the phenomena, yet none of the symptoms related are inconsistent with the hypothesis that the visceral lesions might have been limited to the left lobe of the liver or to the duodenum." It is either this case or Dr. Peters's case which is the "one incontestable example of recovery" referred to by Dr. Otis, the compiler, for all the seventeen other cases are discarded as questionable or entirely valueless as cases in point.

From these remarks upon the so-called nineteen recoveries from gunshot wounds of the stomach, the recorded cases of recovery are exceedingly rare—possibly one. The subject of this paper, at the time of writing, November 1, 1884, is reported as being in perfect health, which is a matter of considerable surgical importance, from the almost hopeless prognosis given of these cases by Professor Kocher, of Berne, who is reported in the "American Journal of the Medical Sciences" for October, 1884, p. 574, as saying that, "considering the *impossibility* of recovery in cases of gunshot wound of the stomach when active measures are *not* taken, it is the duty of the surgeon to perform laparotomy whenever an injury of that kind is *suspected.*"

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* "'Phil. Med. Recorder,' January, 1825; Dunglison's 'Elements of Hygiene'; 'Treatise on Military Surgery,' by the author, p. 359."

† "'American Med. Times,' April 4, 1863; 'Treatise on Medical Surgery,' by the author, p. 360."

ELECTROLYSIS AS A CURE FOR UTERINE FIBROIDS.*

By J. N. FREEMAN, M. D., Brooklyn,
SURGEON TO ST. JOHN'S HOSPITAL.

Fibroid tumors of the uterus are so frequently met with and so seldom cured that a new method of treating them, that promises success in that large class of cases where the growth is interstitial or subperitoneal, deserves careful consideration.

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* Read before the Medical Society of the County of Kings, January 20, 1885.

I present electrolysis as a new method, because the latest text-books on gynæcology and on electricity either ignore it or say no successful cases are known.

As I have succeeded in curing three cases, and have others now under treatment, I will give these three cases in detail.

The notes of the first case were presented to the society at its regular meeting, June 18, 1878.

Case I.—Miss O., aged thirty-five, came to St. John's Hospital in March, 1876, anæmic and suffering from extreme nervous debility. Menstruation had been profuse for fifteen years, and during that time had gradually been more and more painful. Examination revealed a fibroma in the right anterior wall of the uterus, more nearly approaching the peritoneal than the mucous surface. She was placed on the use of chalybeate tonics for a time, and then a persistent attempt was made to effect strangulation of the tumor by the administration of ergot, but with no benefit. Her condition became gradually worse till December, when, a consultation having decided that no surgical interference was admissible, I determined to attempt the destruction of the tumor by electrolysis.

The first operation was done December 23, 1876, in the presence of Dr. Joseph C. Hutchison, Dr. William Gilfillan, Dr. J. H. H. Burge, Dr. Frank W. Rockwell, Dr. J. R. Bird, Dr. G. G. Hopkins, Dr. A. W. Catlin, Dr. E. S. Bunker, and Dr. Charles Corey. The uterine cavity was found to be five inches and a half in depth. The tumor was plainly felt and mapped out through the abdominal walls, rising several inches above the pelvic brim, and apparently of the size of the head of an ordinary child at birth.

After Dr. Corey had placed her under the influence of ether, I took a large sail-needle, curved at the pointed end, and insulated to within an inch of the point, and, passing it through the cervical canal, thrust it into the tumor and connected it with the positive pole of a galvanic battery. A straight, round needle, similarly insulated, was then thrust through the abdominal wall and into the tumor, taking care to avoid the bladder, and so placed as to come within an inch of the other needle, and connected with the negative pole of the battery. The tumor was so dense and firm as to require very heavy forceps and much force to drive the needle into it. A current from sixteen cells was continued through the needles for fifteen minutes. No unpleasant effects were experienced, and the patient was out of bed the next day. I repeated the operation in the same manner January 2, 1877, continuing the current for twenty minutes, and again January 9th, this time increasing the number of cells used to twenty-four, and the time to twenty-two minutes. The next week her menstruation was less profuse and less painful than usual. I repeated the operation February 6th and 12th, increasing the time to half an hour, and using thirty-two cells.

March 6th, before the sixth operation, the uterus measured four inches and a half in depth. The tumor, or what remained of it, was soft to the touch, and the needle could be easily passed in any direction through it with the fingers. Her general health was much improved.

The seventh operation was done March 12th. April 3d the sound passed into the uterus only to the depth of three inches and a half. This, the eighth operation, was unfortunate, as the needle that was passed through the abdominal wall into the tumor was stripped of its insulating covering, and the track of the needle so much irritated as to cause an abscess that was three months in healing.

I left her in the hospital on the 26th of June for a long trip in the East, and did not return for eight months, during which time she had no medical treatment. On my return I made a careful examination, March 2, and again June 8, 1878, and found no trace of the tumor. The sound would pass but two inches and a half into the uterine cavity, and the uterus was freely movable in the pelvis.

I have examined the lady at least once a year since that time, and saw her only a few months ago, in good health and with no appearance of ever having had any trouble in the pelvic cavity.

Case II.—Mrs. W. S. O., aged forty-four, married to her second husband. Last confinement thirteen years ago. By her first husband she had six boys in nine years. Is of slight build and of nervous temperament, and has suffered some years from hæmorrhage from the lungs.

February, 1884.—Complains of severe pelvic pains, and has had frequent and severe uterine hæmorrhage for some months. The touch revealed what appeared to be a retroverted uterus. Passing a sound into the uterus, this was found in the normal position or slightly anteverted, and a finger in the rectum easily distinguished a double fibroma growing from the posterior portion of the body of the womb, each portion of nearly the size of a hen's egg. She was too ill to sit up, but was placed on a couch, in a carriage, and sent to St. John's Hospital.

April 14th.—She was placed under ether, a platinum probe introduced into the uterine cavity, and a straight steel needle, insulated to within half an inch of the point, passed through the *cul-de-sac* and into the tumor. This was connected with the negative pole of the battery, and the positive pole attached to the intra-uterine probe. A current from twenty-eight cells was kept in action thirty-two minutes, the negative needle being driven into the tumor in different directions during the time, great care being taken not to allow the naked part of the needle to come in contact with the peritonæum while the electric current was passing. She felt no serious results from the operation, and was sitting up within a week.

The second operation was done on the 22d of April, and did not differ from the first in any essential particular. The third operation, on May 31st, was the same as the others, except that I used an insulated steel needle for the positive pole, as I had done in my first case. A current from twenty-eight cells was used thirty minutes. No rise of temperature followed, but there was some pain, controlled by rectal suppositories.

She returned to her home about a week later, and during the summer gained twenty pounds in weight and complained of little or no pelvic trouble.

She came back to the hospital the middle of September, when so little of the tumor was found remaining that it was decided not to operate again.

Case III.—Miss F., aged forty-three, a graduate of the Brooklyn Training School for Nurses. Her health had failed so much that last winter she was obliged to abandon her work, suffering with severe dysmenorrhœa and constant pelvic neuralgia.

In April last she applied to Dr. Alexander S. Clarke, who sent her to me with a note saying he had found a subperitoneal fibroid tumor, as large as a goose's egg, attached by a broad base to the posterior portion of the body of the uterus.

I took this lady to Dr. Paul F. Mundé, and said: "I have brought this case for diagnosis and advice." He examined her and said: "The diagnosis is plain enough; she has a post-uterine fibroid as large as my fist. As for advice, there is not much to give. The uterus is bound down by old adhesions, and nothing can be done." I asked what he thought of electrolysis in this case. He answered: "I have never heard of a successful case."

May 5, 1884, she was given ether and I passed a platinum probe into the uterus for the positive pole, and then a steel insulated needle through Douglas's *cul-de-sac* and into the tumor for the negative pole, using eighteen cells thirty-two minutes. No febrile reaction followed, and she was out of bed the next day.

May 17th the second operation was done, the same as the first, only using two needles through the *cul-de-sac* instead of one, and keeping the current from thirty cells passing for thirty minutes. This was followed by severe reaction, the temperature reaching 102° F. on the 18th, 101·5° on the 19th, and 101° on the 20th. The ether affected her badly every time she took it, leaving her unable to retain anything on the stomach for two or three days. After the 20th she rallied rapidly. June 21st, at the third operation, I used a platinum needle, made for me by Tiemann & Co., curved at the point and insulated to within an inch of the end. This was passed through the internal os and thrust into the base of the tumor, for the positive pole, and the negative pole attached to two steel needles and passed into the tumor as before. Thirty cells were used for forty minutes. The fever following this operation was about the same as after the second one. She was able to be about in a week, and then spent two months in the country.

September 20th.—Has gained in flesh and strength, has no pelvic pains, and thinks she is well. Examination reveals the tumor reduced more than one half in size, and comparatively soft to the touch. I repeated the operation as on June 21st. No serious reaction took place, and she was up and about the room in three days.

October 30th.—About one fourth of the tumor remains. I gave chloroform, hoping it would not affect her so unpleasantly as the ether, and used the needles as at the last two sittings. A current from thirty cells was continued for thirty-three minutes. Very little fever followed this, the last operation, the temperature not rising above 100·5°.

So little of the diseased structure remained, and that little was so soft and broken down, that it was now decided to discontinue any further treatment, believing that the rest would be all absorbed in a short time. This lady is spending the winter in Illinois, and reports herself free from all discomforts arising from the tumor.

In the treatment of this case I had the presence and assistance of Dr. A. S. Clarke, Dr. Skene, Dr. Hopkins, Dr. Catlin, Dr. Dudley, Dr. Merritt, and Dr. Richardson.

No. 80 Hanson Place, *January 20, 1885.*

CITY AIR AND CITY LIFE INJURIOUS TO CONSUMPTIVES.*

By FRANK DONALDSON, M. D.,
BALTIMORE.

(*Concluded from page 244.*)

Deficient Sunlight.—An influence of ill-health which is felt more especially in cities is the absence of sunlight. Many houses are situated due north and south, and the sun never reaches their front. The neighbors' residences or their own out-buildings keep off the rays form the other sides. Where the sunlight does attempt to intrude through the windows, it meets with a persistent effort on the part of the mistress of the establishment to exclude it by means of inside curtains or outside shutters. The careful housewife wishes to protect the bright figures so beautifully woven in her carpets. It is no exaggeration to state that many of the streets—not only of the older cities, such as Rome and Paris, but of our own towns—are so narrow and the houses so high that the sun never reaches either the sleeping- or the sitting-rooms. Again, a number of the modern houses of the rich are built three rooms deep, in order to have the parlors and dining-room on one floor, and on each story above three sleeping-rooms. A very convenient arrangement this for ease, but not for health. The middle room is necessarily a dark one. The parents consider this a nice arrangement for their children to be near them in case of sickness, but it never occurs to them that a room so far removed from the sun's rays is an unwholesome place in which to put their children. They certainly would not put their flowers there unless they wanted to bleach them. It is not only from the residences that we have the beneficent orb's influence so sedulously excluded, but the school-houses are so situated that the children can scarcely even see the sun's rays, unless it is to teach them some fact of science in connection with it. In our places of business and warehouses we find the same disregard of the simplest hygienic knowledge of the value of sunlight. Many mercantile firms transact their business in narrow streets in the older parts of our cities, where the sunlight is never seen, unless probably for a short time at noon, and then only in the middle of the street. It can not get into the lower floors, or indeed anywhere where active business transactions are conducted. Even if the streets are wide, the business-floors are so many feet long that the sun can only enter a few feet. Ground-space is so valuable in the thronged streets that every spot, where it is possible to put a building, is built upon, and every part of this made to yield a revenue. We have in the business portions of our cities underground rooms five, ten, and sometimes twenty feet below the surface, in which frequently not only goods are stored, but clerks are at work at their desks. In these, as far as the light of heaven is concerned, it is perpetual darkness.

There is light there, but not the light that nature intended they should have. The gas-light enables the clerks to write and keep their accounts, but at a fearful expense, not to the proprietors, but to the clerks themselves. The health of their bodies suffers more than if they were in darkness, for, in addition to the absence of the sun's healthful influence, they are compelled to breathe an atmosphere which is almost stagnant, rendered impure by their own breaths, and, what is worse still, by the very means used for illumination. How long can the air remain pure when there are several persons, each consuming sixty gallons an hour, and a number of gas-jets, each of which destroys as much air as eleven men—660 gallons an hour? But this is not all: in winter, when the windows must be closed to keep out the dampness of the surrounding ground, stoves are frequently used to keep the underground quarters comfortable. It is estimated that an ordinary stove will consume 15,000 gallons of air an hour! These basement-rooms are considered very desirable for business purposes, and bring high rents. They are much sought after for banking establishments, and, singularly enough, for life insurance companies, who do not hesitate, in insuring the lives of outsiders, to take the lives of their clerks and employees. Thus it is that not only in the principal cities of Europe hundreds of thousands of persons carry on their trades in almost utter darkness, but also in the cities of this progressive country of the New World. The sunlight is considered an enemy by the fair sex, who appear to be continually on their guard lest it should reach their faces. They avail themselves of all sorts of material to put over their pretty features to protect them from the sunlight; they consider the ruddy color of health unbecoming, and they think that a woman is more ladylike when her skin is transparent and bloodless.

What is this sunlight which is intentionally or thoughtlessly kept out of our houses and off of our persons? It is nothing more nor less than the source of all force, and, consequently, of all life, animal and vegetable; was so made by the Creator when He said: "Let there be light, and there was light."

It is unnecessary to recite all the facts in nature that have established our belief that the various forms of force manifested in the actions of animal life trace their origin to that emitted by the sun, and that plants are the media for fixing the solar force for converting actual into latent or potential energy. Light influences the chemical changes made through food and air. Molecular rest is prevented in living beings by sunlight, and molecular activity constitutes life. Every one admits the necessity of a full exposure to the light of day to insure vigorous and healthy growth in almost all plants, the leaves and flowers of which follow the direction of the sun throughout its whole course from east to west. Sunlight is as necessary for the color of animals as plants, and for the preservation of health and the attainment of the full development of the animal frame. Without light, the mother coloring principle of the organism—the hæmoglobulin—is rendered pale, and the lessened intensity of the beautiful scarlet color is observable to all. The intensity of the red color of the red globules has been demonstrated to be owing to the quantity of oxygen they contain, and they have great avidity for oxygen, and absorb it readily, whenever they come in contact with it. The nutritive functions of the body depend upon this oxygen. Is it astonishing, then, that children and clerks shut out from the light, and workmen in tailor shops, millinery garrets, and mines, should be pallid and ghastly, their muscles soft and flabby, and their nervous system relaxed and irritable?

We must remember the effect of sunlight in dissipating dampness and preventing musty smells which are so promotive of disease. There is no surer way of developing a predisposition to consumption, or, if there should be no hereditary tendency, of actually creating this disease, than by excluding the sunlight. Constitutions thus trifled with have no power to resist the causes which bring about inflammation and mal-nutritive results. Our daily experience demonstrates the justice of this conclusion. In the country it is almost impossible to exclude the sunlight, and the occupations of those who live in the rural districts are not such as shut them out from the light. If we recognize the bacillus as a living germ, why can not sunlight have some effect in lessening its malignancy, as we believe it does those of vaccinia and scarlet fever and diphtheria? Dr. Richardson tells us that the sun's rays render inert even the curare poison. Are we not right in considering absence of sunlight as having a powerful influence in developing pulmonary consumption?

Sedentary Life.—Many of the city occupations involve necessarily a sedentary life. This is in violation of the laws of health, which require, of necessity, more or less of active muscular exercise. The physiological death of tissues is followed by physiological renewal, and the activity of the renewal is regulated by the rapidity of the waste. There can be no health without exercise in the open air. Sedentary life is generally connected with the breathing of air containing excrementitious gases and organic matter which have been thrown out of the lungs, and also the absence of the beneficial influence of sunlight. Inactivity, impure air, and absence of sunlight, when thus combined, produce a fearful mortality, and principally from pulmonary consumption. The deaths of farmers at the age of thirty-five to forty years is given as nine in one thousand, while that of tailors was fourteen, and of bakers fifteen in one thousand. Lombard, as given by Dr. Clendenin, of Cincinnati, exhibits trades in relation to the prevalence of consumption—in every one thousand deaths these proportions:

Occupations with vegetable or mineral emanations..	176	deaths.
With various dusts..............................	145	"
With sedentary life..............................	140	"
With workshop life...............................	138	"
With dry and hot air.............................	127	"
With stooping posture............................	122	"
With muscular exercise and active life...........	89	"
Living in the open air...........................	73	"

In-door Life.—Dr. B. W. Richardson states that no exciting cause of consumption is so general as in-door occupation. Two out of every three patients with consumption, who presented themselves at his infirmary, were found on inquiry to be employed in some in-door business. Dr. Richardson's statistics are valuable because the cases from which they are derived were examined with great care by Dr. Powell, Dr. Davis, and himself. Of the 515 cases thus seen, 68·34 per cent., or rather more than two thirds, were of persons with in-door occupations. Of the 3,214 consumptives who became inmates of the Brompton Hospital in ten years, 1,812 (more than one half) had in-door employments. Among the in-door occupations which present the largest number of cases in this list, boot and shoemakers rank first; needlewomen second; watch and clock makers third; domestic servants fourth; painters and tailors, printers, writers, cigar makers, come next in order—most of them city occupations. These have not only impure air and frequently sitting postures, but they inhale foreign substances, such as sand and glass in the sand-paper factory; dust, and particles of cotton, flax, and others, in textile factories; particles of metal, fragments of hair, etc., in brush factories. These inhalations of the various dusts are a fruitful cause of consumption, because they inflict mechanical injury, which is followed by inflammatory products, and these degenerate into destructive diseases of the lungs.

Dampness of Soil.—We have already alluded to Dr. Bowditch's and Dr. Buchanan's papers on the subject of soil-dampness in producing pulmonary consumption. It is not exclusively a city influence, but there is no denying the fact that parts of our cities are built upon marshy ground, where the cellars are not only damp, but where, after heavy rains, they contain water, frequently in considerable quantities. In many of our streets the water that passes between the stones remains there for a long time. The sun does not reach it. In many of the narrow streets the sunlight is never seen! The reports of the Irish census Commissioners show the mortality from consumption, in the spring months for ten years, to be twenty-two thousand more than at any other season. It is the transition season, when there is a quantity of winter dampness given off, and there are great variations of temperature. Dampness of houses exerts an influence injurious to health. The air that is overcharged with moisture hinders the passage of heat from the earth, and it affects the health by preventing the evaporation from the skin and lungs. The temperature of the air, or its evaporative power, modifies these effects.

Positions where the soil is of gravel allow the moisture to pass more readily down than where it is of clay, and many city houses are built on a clay subsoil. The walls are of soft, porous brick, and in the upper stories frequently not more than nine inches in thickness; through these the driving northeast winds force the rain, the inner plastering becomes saturated, and we frequently meet with moist wall-papers, with moldy paste and sizing. In addition to this faulty material, we have often wood used in the construction of the doors and floors which has not been perfectly seasoned, and, consequently, contains an unhealthy amount of moisture; the mortar used is often imperfectly prepared. This, assuredly, is not according to Dr. Richardson's high standard of sanitary excellence! This excessive amount of humidity is found principally in the houses of the poor.

The streets of our cities contain not only an amount of dust and dirt, but frequently organic *débris*. Boxes of garbage are allowed to remain for hours on the sidewalks, even in very hot weather, giving off offensive odors; the dung of animals, the sweepings of houses containing the germs of infectious diseases, are spread broadcast through the atmosphere. These mal-sanitary influences lay the foundation of exhausting maladies.

Other Diseases.—We further maintain that all diseases which affect profoundly the organism may, and frequently do, give rise to pulmonary consumption. They impair the forces of the body, and the lungs, the most sensitive part, suffer in their nutrition. As in health the lungs minister to the maintenance of the tissues, and any deficiency in the workings of the lungs affects them instantly, so in turn do the lungs feel any perversion of their functions. Inflammations everywhere produce too much bioplasm with loss of formative force. We daily meet with cases of consumption where the starting-point was an illness. The organic poisons of small-pox, measles, typhoid fever, are frequently followed by destructive diseases of the lungs. Bright's disease and diabetes mellitus are often complicated or followed by phthisis. Of the 899 diseases which the College of Physicians of London tell us afflict the human race, a large number of them leave a weakness of life force.

Applying Dr. Playfair's method, Dr. J. R. Black estimates that in New York and Philadelphia nearly three fourths of the entire population are sick in some way each year. Here we have a prominent cause for the development of pulmonary consumption. Ought we to be surprised at the fearful number of cases of this disease occurring in every large city?

Contagion.—We must not lose sight of the principles of contagion in tubercular consumption. In cities, if anywhere, we find conditions calculated to spread the contagious element of tubercle. The bacilli are ejected from diseased lungs in overcrowded houses and hospitals, and along the streets through which the poor victims walk. They everywhere alight upon soil well fitted to propagate them.

Other City Influences.—The time I have already consumed prevents my speaking of other city causes which are instrumental, in a greater or less degree, in developing pulmonary phthisis. Irregular habits of eating, late dinner hours, the deprivation of sleep (which nature intended should take one third of our hours to refresh us for the other two thirds work), the close confinement to business, the worry and anxiety of speculative business, the over mental work of students—all these, and whatever interferes with the integrity of the organic and vital functions, tend to the impairment of the vigor of the body, and thus predispose to inflammatory and tubercular diseases.

Lessened Mortality.—Dr. George Derby, of the State Board of Health of Massachusetts, in his article on the prevention of disease, in 1870, gives us the records of consumption in Massachusetts, as derived from the census of 1865. This report states the gratifying fact that private and public hygiene are really diminishing the mortality of this disease in that State. It shows that the number of deaths does not increase in proportion with the population, and that, comparing the first group of five years with the last group of five years, the annual gain in each 100,000 of the population is 54 lives; "this gives," says Dr. Derby, "as the actual saving of life in the last five years, 3,440 persons, or 688 in each year." Deaths from consumption in Massachusetts have diminished by that amount, and the improvement seems to be going on. Dr. Derby expresses his belief that this is owing "to the advance of medical science, which has given to physicians a better mode of treatment, derived from a careful observation of cases, from modern discoveries in chemistry and physiology, and a greatly improved acquaintance with the means by which consumption may be avoided by those predisposed to it by inheritance, derived from all these sources combined."

We believe that it is not only from a more intimate knowledge of the disease itself, and its appropriate treatment, that this mortality is lessened, but by the fact of the recognition by the profession of the principles of rational practice and of conservative medicine in the treatment of all diseases; for, as we have seen, whatever profoundly affects the organism and shocks the nutritive functions may be the means of developing consumption. The essential fevers, which are frequently followed by pulmonary phthisis, are now controlled and guided to a safe termination, instead of the sufferers being overdosed and deprived of those hygienic conditions necessary to the restoration of health. We have also the hygienic treatment of all diseases, which is the medical fact of the times. It is more especially from the improved treatment of inflammatory diseases in general, and those of the lungs in particular.

The pneumonias are now treated on the restorative plan, in simple recognition of the fact that inflammatory action, no matter where met with, does not ordinarily need depletory remedies, such as venesection, starvation, antimony, and mercury—the great spoliatives—but that it is in its intimate nature an evidence of depressed and not exalted force, and that its products are pre-eminently so. The imaginary phlogiston of the past theories is no longer recognized as something to be subdued by antiphlogistic remedies. Now, by the aid of hydrotherapy, quinine, digitalis, and other antipyretic agents, we prevent the exalted temperature from producing paralysis of the heart and brain. We thus sustain and save life. With the quinine in large doses we do more still. We control in croupal pneumonia the amount of exudation by its wonderful power of arresting the migration and subsequent rapid increase of the white-blood corpuscles. We thus ward off pulmonary phthisis.

For this modern treatment has not only decreased the mortality in pneumonias, which has improved from 33⅓ per cent., or at least 16 per cent., to 2½ per cent., but it also materially lessens the danger of degeneration of the plastic material thrown out in pneumonias. This protoplasm of lowered vitality can be and is absorbed, instead of remaining to undergo in the organism, exhausted by the continuous high temperature of days, caseous degeneration, and, finally, phthisis from inflammatory origin. Thus a fertile soil is ready for the bacillus.

The organism, to recover from the products of inflammation, requires all the strength and vigor that can be imparted to it by alimentation and by tonics.

But perhaps the most encouraging prospect for the diminution of the mortality in pulmonary consumption rests on the greater appreciation of the true principles of the philosophy of food—alimentation in disease; the imperative necessity of food for the sick as well as for the healthy. Disease being only a perversion of health, a lowering of the physiological status, the body requires food to replace the waste that is uninterruptedly going on under all circumstances, and it must be supplied if it is possible to get the stomach to prepare it for assimilation.

It is recognized that there is no condition which does not require food, inorganic and organic, if it can be given and digested. Without due supply in acute diseases of the respiratory organs there is not only, if the patient recovers, protracted convalescence from the acute symptoms, but there is imminent danger of what Hippocrates appropriately called unresolved pneumonias, which, we have seen, are nothing more nor less than a form of pulmonary consumption.

Of the curability of consumption, even after it has manifested itself, we need only speak of the fact reported by M. Roger that at the autopsies at La Salpêtrière, in Paris, the hospital for the aged, 51 per cent. of the lungs examined contained evidences—such as cicatrices and calcareous nodules—of their having had during life tubercular or other destructive diseases. We confidently assert that there is no chronic disease which can be so controlled in its development by sanitary and hygienic laws as pulmonary consumption. In cities there is no denying the fact that the hereditarily predisposed have to go through trying ordeals which test their force of resistance to the utmost. City habits, city houses, city life, and city occupations, all conspire against them. In cities the young mature earlier, the adults live faster and they die earlier, and consumption maintains its supremacy in its large percentage of the deaths. Let us not despair of decreasing still more the mortality from this frightful scourge, even in our large cities.

Let us see that the sunlight enters the dwelling freely, that the outside air is drawn in and the inside air thrown out continually; let us insist upon the proper alimentation of our household, and upon our children being well protected by clothing from the changes of temperature and moisture of the atmosphere; let us avoid intemperance, which causes at least two per cent. of the deaths from phthisis, and take regular outdoor exercise, and when our children are young let us send them to the country for five months of the year, when we can do so. When parents choose fields of usefulness for their children, let them bear in mind the demonstrated injurious influence of in-door and sedentary occupations. In one word, let them observe the laws of health which nature has given them. This done, we believe hereditary tendencies to consumption will be overcome in a great measure, and acquired consumption much less frequently met with. Dr. Richardson does not overstate the decrease in mortality in his ideal "City of Hygeia" when he says that the victims of the deadly foe, consumption, would be reduced at least one third.

MALARIAL FEVER ON LONG ISLAND; ITS PREVALENCE.

BEING THE REPORT OF THE COMMITTEE ON HYGIENE OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.*

By J. E. BAKER, M. D., Brooklyn,
SURGEON TO THE LONG ISLAND COLLEGE HOSPITAL.

The Committee on Hygiene of the Medical Society of the County of Kings in the early part of last year, 1883, sent a series of questions on intermittent fever, with an explanatory circular, to every physician on Long Island outside of Brooklyn.

The two chief objects were to ascertain the presence or absence of malarial fever in the various towns on the island, thereby affording physicians a guide in recommending localities during the summer months, and, secondly, to accumulate all the scientific material possible relating to the ætiology of the disease.

The circular and questions were as follows:

"Dear Sir: Intermittent fever is an unmistakable evidence of malaria, and the localities in which this fever originates or prevails, if otherwise attractive to the inhabitants of large and wealthy cities by reason of accessibility and advantages of country life, suffer the material loss of the development and prosperity which would necessarily follow were their sanitary reputation good.

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* Read before the Medical Society of the County of Kings, December 16, 1884.

"It is believed that a systematic and thorough inquiry and report as to the facts about malaria on Long Island, by directing attention to the subject, would be a means of promoting the employment of established remedial agencies and operations, and so prove a very great benefit to all concerned.

"The known readiness of the medical profession to advocate and lead in the cause and measures of preventive medicine has encouraged the Committee on Hygiene of the Medical Society of the County of Kings to undertake this work with the co-operation of the physicians resident and practicing on Long Island.

"The Committee propose the investigation of the history, geographical distribution, extent and causes of intermittent fever on Long Island. They solicit correspondence, and would be pleased to be favored with such a communication at large from you as you may conceive will advance the investigation; or, a brief response indicated by the inclosed postal card, for return to the Committee, will be much appreciated.

"In your communication please notice the following points:

"1. Have you personal knowledge of any printed records of intermittent fever in your town, or any part of Long Island?

"2. Description of intermittent fever localities.

"3. How long subject to intermittents?

"4. Causes, supposed or alleged, of intermittent fever in each locality.

"5. If of recent origin, what gave rise to intermittent fever in any locality?

"6. Has it disappeared in any locality within your knowledge, and the cause of such disappearance?

"7. Types of fever.

"8. References to authorities and historical records or contemporary sources of information.

"AVERY SEGUR, M. D., *President*,
"WM. HENRY THAYER, M. D.,
"J. E. BAKER, M. D., *Secretary*."

In order to accommodate those who did not find it convenient to answer in detail so full a set of queries, a postal-card containing these three questions was inclosed with each circular:

"1. Is any portion of your town liable to the occurrence or prevalence of intermittent fever?

"2. If so, what, if any, are the peculiarities of the locality?

"3. What, if any, means of relief have been undertaken, and with what effect?"

The responses to the circular and questions first sent were very few, consequently they were again forwarded at intervals of five or six weeks.

Outside of Brooklyn there are one hundred and nine physicians on Long Island, practicing in fifty-three towns, and thirty-six of these were heard from, being about three fourths of the towns containing resident physicians from whom reports in the form of answers to the queries of the Committee's circular have been received bearing upon the history of malarial fever and its ætiological relations, the latter of which will be considered in another part of this report.

It is proper to add that many other towns and villages are included in the reports by physicians living in their immediate vicinity.

It should be understood at the outset that this report is not the result of personal visits and investigations by any of the members of the Committee, but is based entirely upon the communications from the various localities by the resident physicians thereof, in whom the Committee have the utmost confidence.

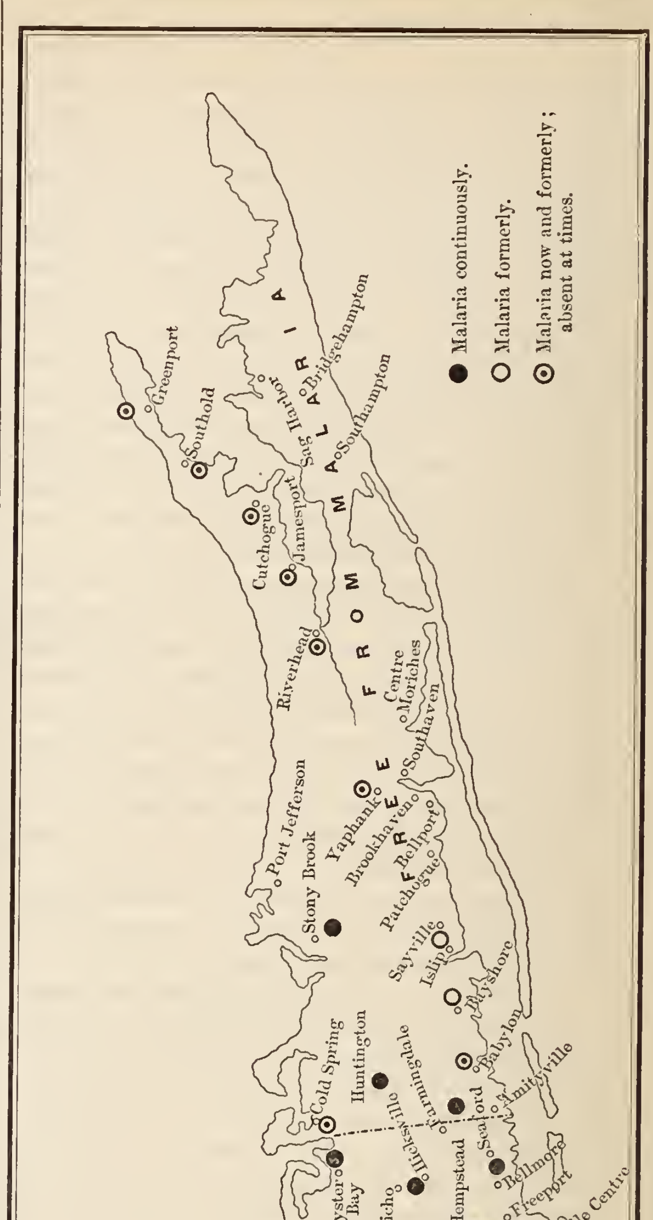

Fig. 1.

A map of Long Island has been prepared, designed to indicate the malarial localities as far as could be determined by the efforts of the Committee. These points where malarial fever prevails, or has prevailed, are shown by small dots and rings. The dots are intended to indicate the continuous prevalence of malaria in some of its forms, either mild or severe. The rings point out sections where it formerly prevailed, while rings inclosing dots designate regions or parts of the island where the disease exists now, and where it existed formerly, with intervals of its entire absence.

It will readily be seen by the characters on the map representing the malarial sections that the disease has a much greater prevalence in Queens County than on any other part of the island, and that along the south side of Suffolk it is almost, if not entirely, absent.

A brief mention will now be given of the presence or absence of malaria in the various localities heard from, beginning, for convenience, with Greenport, on the northern prong at the eastern end of the island.

Dr. B. D. Skinner, of Greenport, furnishes the Committee with an exceedingly interesting statement of the history and causes of malaria in his town and vicinity. With reference to its history the doctor says: "There is evidence of a traditional character showing that something like sixty years ago intermittent fever was somewhat prevalent in this section, and that it was absent from 1828 (or earlier) until about seven or eight years ago. . . . It began to make its appearance in this locality about 1874, and there is but one new factor in connection with the swampy lands, and that is a lower average standing of the water of from ten to twenty inches, due to a lessened amount of rainfall, etc."; and since it reappeared he says that "there has been no disappearance in any locality within my knowledge." That it "is confined almost or quite entirely to the vicinity of swampy lands and ponds," except in a certain section of elevated ground where it seemed to be quite prevalent, but says that "the whole community went to one church which was less than three hundred feet from a large pond." In regard to "the type" in which malarial fever manifests itself, he says it "is nearly always tertian, next in frequency is the quotidian, and an occasional case of malarial epilepsy."

Dr. H. P. Terry, of Cutchogue, a town some distance west of Greenport, writes as follows: "There are some vague reports, traditional, that chills and fever did prevail here in a moderate degree from fifty to seventy-five years ago. I have conversed with a few men now eighty years of age, and they say fever and ague did occur when they were young men (twenty years of age) in a few cases. Intermittent fever now has prevailed for eight years." [This was written in September, 1883.] "I have been a practitioner of medicine in these two townships of Riverhead and Southold for seventeen years. I never saw a case that originated here until 1874 or 1875. I have observed it closely ever since. It has been declining now for three years, and this year, 1883, I have seen no new cases, and very few (three or four) of those who have been affected in previous years. . . . The townships of Riverhead and Southold constitute the eastern and northern branch of Long Island, bounded by Peconic Bay on the south and Long Island Sound on the north—a territory twenty-four to thirty miles in length and three to four miles in width. On the bay side, at intervals of one mile or less, a creek puts up into the main-land for half a mile to a mile, having its origin in a fresh-water source, and the main highway from Riverhead to Greenport, twenty-one miles, is located at the heads of these creeks. . . . A few creeks, longer and wider, put in from the Sound.

"These creeks are at the fresh-water level of the country. Wells of water, according to their location and proximity to these creeks, are from ten to eighty feet deep. The tides rise and fall twice every twenty-four hours, and in a moderate degree the sources and meadows are washed by salt water. At low water it has been noticed for several years past that the upper portions of the creeks were dry, and fresh water failed to flow, and that this bare surface, usually under water, emitted a bad odor in many instances. Also the wells have been very low during the same period, so much so that for two or three years past most of them have been cleaned out, and the springs have been deepened thereby. Last year and this year the water-level has been rising, and is now higher than at any time during the intermittent period, and intermittent fever is less than at any previous period in eight years, and I am convinced it is owing to the higher fresh-water level that prevails.

"At any time in the past intermittent period but a very small percentage of the population *has been affected, and only those who live in the immediate neighborhood of the origin of these creeks.* From three to six families living within a *certain distance* of a creek are affected. Then a half-mile to a mile of entire exemption from this malarial influence until the next creek is reached, and then again a few families affected. If the creek is large and has branches with acres of marsh or meadow, particularly if any of the latter is cultivated for cranberries, the miasm is more general.

"The prevailing type of intermittent is tertian—very few cases of quotidian. It is a mild type, easily controlled with the alkaloids of Peruvian bark, relapses occurring, particularly on the twenty-first day, if quinia is not exhibited. There are no sequels affecting the system organically. April, May, and June are the months in which most of the cases occur, and those affected a previous year are quite sure to fall victims the following year, unless quinia is used anticipating the relapse."

From Jamesport, a place west of the town just considered, we have the following from Dr. C. Wright: "I have been a practitioner of medicine in this place for nearly fifty years, and never saw a case of intermittent that originated here until about ten years ago [1874 or 1875]. It was prevalent here about seventy years ago, and how much or long before I do not know. It commenced here first among the inhabitants that resided near the creeks and marshes—low, swampy localities. It prevailed in these places two or three years before there were any cases a mile or two distant, and now have a few cases all over, but not so many far away from those localities above designated. Formerly those marshes were mowed, and the grass was carted away every autumn or summer; now they are not, and the grass is allowed to rot where grown. . . . It has not disappeared in any locality within my knowledge. The type of fever is generally mild."

From Riverhead we have a communication from Dr. John H. Benjamin. With reference to the prevalence of malaria he says: ". . . Intermittent fever has existed in

Riverhead for ten years, physicians who have practiced here for forty years not having seen cases of this disease previous to the last ten years. Only a small number of this whole population contract the disease in any one year. Main Street, in the village of Riverhead, runs parallel to and a few yards from Peconic River for the distance of about one mile. Of the residents of this street, few have escaped from malaria during the last ten years. Cases occasionally, but not often, occur in other parts of this village.

"The majority of cases that occur here are mild and easily controlled by quinine, ten grains per day being the maximum dose employed.

"I will say a few words of the villages adjacent to Riverhead. At Aquebogue, population 323, situated on one road which runs parallel to and from one to two miles from Peconic Bay, malaria has existed about ten years, cases being mild; soil in this settlement is a mixture of sand and loam, with some salt marshes near Peconic Bay. Jamesport, population 453, situated directly on Peconic Bay, some malaria during past ten to fifteen years; soil sandy, with salt marshes near bay. Canoe Place, Good Ground, Springville, Atlanticville, and Quogue are situated on Shinnecock Bay, and, although their soil conditions are apparently the same as Aquebogue and Jamesport, they are absolutely free from malaria. Flanders and Red Creek are situated on the south side of Peconic Bay; soil sandy, and salt marshes. Malaria unknown. . . . It occurs in some places in this vicinity that are high and distant from marshes; it is absent from other places that are low and marshy."

Dr. R. H. Benjamin, from the same village (Riverhead), writes that "cases occur in every school district, and especially in those localities in the vicinity of marshes and ponds of water with no outlet; and in localities adjoining the river are the greater number of cases" to be found.

Passing up the Peconic River beyond its source, about ten miles from Riverhead, and in the township of Brookhaven, is the village called Yaphank. The following is from Dr. J. I. Baker, Secretary of the Suffolk County Medical Society: "Having practiced here twenty-two years over a region from Great South Bay to the Sound, I never knew a case until about ten years ago. I learn that it prevailed on Long Island some seventy years ago. Now it appears near by where fresh-water streams enter, but scarcely ever on the plain land. Our county almshouse and lunatic asylum is located here, and a case has never originated there. It has prevailed extensively on the highest hills."

The above extracts from letters received constitute the evidence of the prevalence of malarial fever in a mild degree in the townships of Riverhead, Southold, and a part of Brookhaven, comprising that portion of the island lying between the Sound and Peconic Bay. This plain statement of facts comes from five points—Greenport, Cutchogue, Jamesport, Riverhead, and Yaphank, villages on a narrow section of country above referred to. What is quite remarkable about these communications from these five villages is the fact that they agree, not only essentially so, but almost in the minutest particular. The chief points are these: That malarial fever prevailed in a moderate degree about seventy-five years ago; that it was absent until about 1874 or 1875; that it is growing less during the last three or four years; that it occurs mostly in marshy districts; and that the type is nearly always tertian, attacks being usually mild.

The remaining part of Suffolk County bordering on the Sound also suffers from the prevalence of malarial fever, and to a greater degree of severity, perhaps, than the section just considered. Dr. George T. Fanning, of Stony Brook, writes that "all portions of our village have more or less intermittent fever, and some portions more than others. The lower portions, or those situated near a large mill-pond, seem to be the first affected. After a long spell of dry weather, when the pond becomes low, malarial fevers begin to abound and gradually creep up to the higher portions, new cases developing nearly every day. After a rainstorm the whole thing seems to be cut short for a while."

From Huntington we have the following from Dr. G. B. Banks: "Intermittent fever first occurred here in 1867 and 1868, and has prevailed some every year since, a few typical cases only coming to notice. Locality appears to have little or no influence, occurring near the water, in the valleys, and on the hills with equal frequency.

"Some cases of sickness occur in each season of an intermittent and remittent character which can not be truly called intermittent fever, but which yields to the treatment for intermittents. . . . Neuralgia and other neurotic troubles appearing to depend upon the same cause as intermittents are quite as frequent, and more troublesome to treat than typical cases of intermittent or remittent fevers."

Dr. William P. Overton, of Cold Spring Harbor, sends a pencil sketch showing the relative position of the harbor, the village, and the surrounding ponds. His first letter is as follows: "Cold Spring Harbor has been persistently annoyed with intermittent fever for the past fourteen years. When it first appeared it assumed very generally the tertian type. This type was steadily maintained for twelve years. It then changed to what we denominate here dumb ague. This form continued until two years ago, when it began to abate, and during the past two years there has been very little of it around.

"I have frequently been told by the older inhabitants that some thirty years ago it prevailed quite extensively.

"Conditions favorable to its production are abundant, such as fresh-water ponds full of decayed vegetation, with about seventy-five acres of meadow-land that is alternately covered with tide-water and exposed to solar action.

"Every spring and autumn I have had ten or twelve cases of remittent fever, occurring chiefly among children from ten to fourteen years of age. That the malarial poison is still in existence here is evident from the fact that non-residents are certain to be affected by it within two or three weeks. That there is such a condition as acclimation to malarial influences I am quite positive. Sixteen years' observation of malarial diseases in this place has thoroughly convinced me of this fact."

At the request of the Committee, Dr. Overton wrote a second letter. It reads thus: "In answer to your question, 'as to the different forms of dumb ague, and clinical history thereof?' I would say that a large majority of cases had a paroxysm every other day; no regular chill; simply chilly sensations creeping up the back, generally so slight as to escape notice of patient unless his attention was called to it. Then violent fever, pain in head, limbs, back, and epigastric region, lasting from two to six hours, followed by profuse sweating. In other cases this scene would be enacted every twenty-four hours. In a number of cases, especially in adults, violent, noisy delirium occurred during height of fever. Very frequently in children convulsions were the first symptom we had of malarial poison. These cases were very amenable to the action of quinine, but disaster followed the practitioner who, under the supposition that he was dealing with cerebral congestion, resorted to leeching and purgation. One woman, seven months pregnant, felt her child shake *in utero* every other day for ten days. This ceased on giving the mother moderate doses of quinine. This fact was verified by myself in two other cases.

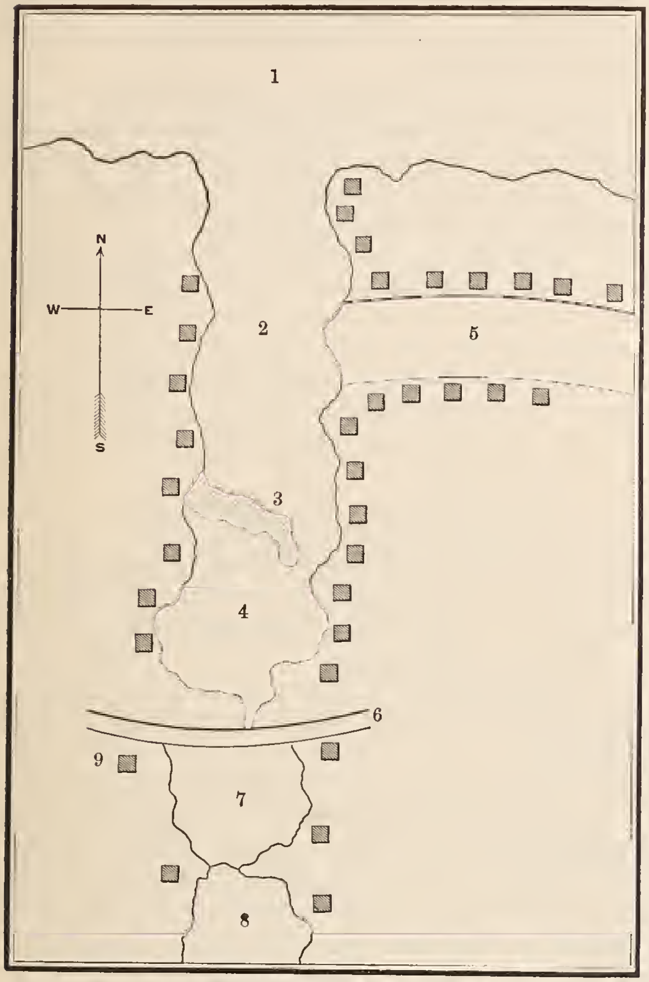

Fig. 2.—A Plan of Cold Spring: 1. Long Island Sound; 2. Cold Spring Harbor; 3. Sand bar; 4. 75 acres of meadow, covered with tide-water; 5. Main street of the village; 6. Mill-dam; 7. Fresh-water pond, about 15 acres; 8. Fresh-water pond, about 40 acres; 9. A house in which malaria prevailed severely. Distance from the mill-dam to the mouth of the harbor, about three miles; deep water in the harbor up to the sand-bar; width of the harbor, about a mile.

"Cold Spring Village is located along each side of the harbor, with high ground on each side. Our prevailing winds are westerly and southerly. I have repeatedly noticed that eight or ten days' prevalence of westerly winds would drive the malarial poison up the valley from the meadow and fresh-water ponds to a little village about four miles in a southeast direction. Then, again, a southeast wind would impinge it upon the west side of Cold Spring Harbor. This I inferred from the increased number of cases I had in the two localities according to which way the wind had been blowing."

With regard to the southern side of Suffolk County, the reports agree, almost without exception, in the fact that but little, if any, malaria exists. Nor does it appear that it prevailed formerly to any extent, at least within the memory of older inhabitants, with the exception of the section near the Queens County line by the Great South Bay.

"We call Sag Harbor," writes Dr. George A. Sterling, "the most healthy spot on Long Island. Intermittent fever is unknown here."

At Bridgehampton, Dr. John Lyon Gardiner says: "Intermittent fever does not prevail. Cases occur occasionally, which generally can be traced to a foreign source."

Dr. L. D. Halsey, of the same place, expresses great interest in the subject under investigation, being himself a sufferer from intermittent fever caused by a long residence in Connecticut. His letter begins thus: "I have only practiced here a few months (written August 8, 1883), but I can give the experience of one whom I immediately succeeded, and whose observations in this place extended over a period of forty-seven years, ending last March (1883). He said that during all his practice here he never saw a decided case of intermittent fever which originated in this locality, though he acknowledged that in the five years past several cases came under his notice that caused some doubt. In my own practice I have as yet met with no cases but what I could easily trace beyond the village."

From Southampton Dr. D. H. Hallock writes that "no part of this township, as far as I am aware, is subject to intermittent fever."

No written reports could be gotten from the section bordering on Moriches Bay; but it was learned indirectly that there was an occasional case of malarial fever there, but whether it was imported or originated there could not easily be determined.

From Patchogue two physicians were heard from, Dr. S. W. Chapel and Dr. W. S. Preston. The former says: "There is an occasional case of mild form of malaria"; the latter writes that "only occasionally, and to no great extent."

Dr. G. A. Robinson writes that there is no malaria "in Sayville or surroundings."

Dr. E. H. Hamil, of Islip, says: "The entire town is, I believe, entirely free from malaria."

From the same place Dr. A. G. Thompson reports that he has "lived and practiced in the town of Islip for the past thirty-two years," and says:

"I do not know of any portion liable to the occurrence or prevalence of intermittent fever.

"A few years ago the owner of a cranberry-bed kept it under water during the winter, and let it off in May, in consequence of which there were five cases of intermittent fever in his own family. . . . Other than these I have not seen any originating here during the past thirty years."

The president of the Suffolk County Medical Society, Dr. N. W. Hewlett, of Babylon, says: "I can not say that intermittent fever exists in any locality in the territory over which my practice extends. It has long been considered that Babylon and its vicinity are exempt from malaria (using the word in its restricted sense), not only by the more intelligent of its laity, but by the practicing physicians here. Occasionally we find sporadic cases of the disease developing in households where no attention is paid to matters of hygiene. These cases are invariably of the tertian type, so far as my experience goes. I think I am called upon to treat from one to twelve cases per annum of intermittent fever, but I can not recall a single instance of the occurrence of intermittent fever in the same household in successive years."

In Queens County malaria is quite prevalent over the entire county. Scarcely any of its villages are exempt from its influence.

From the northeastern corner Dr. G. W. Fuller writes the following from Oyster Bay: "We have intermittent fever. There was a slight epidemic during 1880. Since then only isolated cases have occurred. Tertian is the type. I have heard of cases having occurred here twenty years ago, though others deny this."

Dr. Charles Blasdale, of Jericho, after mentioning the presence of pools and ponds in his vicinity, and in the vicinity of Woodbury and Syosset, continues: "Now, right in the neighborhood of these pools for the past eighteen years I have been called to treat fever and ague in its various forms and phases. Adjoining my own house there is just such a pond, belonging to the public, and, as a consequence, my family is seldom free from malaria. Quinine, iodine, arsenic, Warburg, Warburg modified, iodide of potassium, etc., fail to give us protection."

"Two miles north of Farmingdale," writes Dr. H. S. Thorne, "where A. T. Stewart's brickyards are located, there has been considerable malaria, both intermittent and remittent, some cases here in town also originating mostly at the brickyards and at other points, and imported here. Both types exist—quotidian and tertian; two cases of typho-malarial this summer (1883). Malaria here is of mild form, and confined to the months of May and June."

Along South Oyster and Hempstead Bays it seems to occur continuously. Dr. F. C. Hagerman, of Seaford, says it is prevalent in "the western portion of the township of Hempstead, extending as far east as Freeport and Greenwich Point."

Dr. William Rhame writes that Belmore has "been subject to malaria about ten years, . . . types of fever, intermittent, occasionally remittent."

Dr. C. H. Hammond sends the following from Freeport: "No part of this section of Long Island is exempt from malaria. All types of malarial disease prevail, intermittent, remittent, chronic malarial poisoning, etc., and many diseases are modified in character in consequence of the presence in the system of the poison—e. g., typhoid fever."

Dr. B. W. Hutcheson, of Rockville Centre, reports that it prevails in that village and vicinity.

Dr. Edwin Webb, formerly president of the Queens County Medical Society, says he has practiced fifty years in Hempstead, and has had not less than two thousand cases of intermittent fever. That it "still prevails, . . . and the removal of the soil and *débris* for the reservoir has added to its increase; . . . but during the last three years it has greatly diminished."

Dr. Charles H. Ludlam, of Hempstead, writes to the same effect: that "for a time after the opening of the reservoir of the Brooklyn water-works intermittents were very prevalent here, but now they are comparatively infrequent, though modified by the character of the season."

In the immediate vicinity of Mineola, and especially in the swampy parts, malaria has existed, says Dr. E. D. Skinner, "as long as any one can remember; the village itself, however, has had none until about four years ago."

Dr. W. D. Wood, of Jamaica, writes that "for thirty years, to my knowledge, malaria has prevailed, and still prevails, principally south of the village, where the ground is low and swampy."

Dr. R. C. F. Combs reports that "all parts of Woodhaven" and vicinity are subject to malaria.

Dr. P. F. Ferrer, of College Point, Dr. F. Wickam, of Corona, and Dr. W. F. Rebman, of Winfield, all send brief reports, and all agree in the fact that malaria prevails all over that part of the county.

In Kings County, outside of Brooklyn, responses were received from Gravesend, New Utrecht, Fort Hamilton, and Flatbush.

Dr. R. L. Van Kleek writes thus from Gravesend: "I have resided in this locality for twenty years, and am acquainted with the towns contiguous, and I do not think we have any more malaria than Flatbush or New Utrecht. . . . Those residing in the neighborhood of swampy or low grounds are more liable than those residing a distance from them of half a mile, or greater distance.

"A curious circumstance in connection with intermittent fever is the following:

"In 1863, when I first came here, Coney Island was *entirely exempt* from the fever. For five or six years I did not see a single case in those persons residing continuously there. It then made its appearance, and, to a limited extent, has prevailed there ever since. All along the shore line, including Sheepshead Bay, I could find no cause for this —there being no improvements, no removing of soil," etc.

In reference to its prevalence at New Utrecht, Dr. T. Schenck replies: "Not now; ten years ago it prevailed."

At Fort Hamilton, Dr. James A. Blanchard, of the Inebriates' Home, writes that "our grounds are almost exempt from it."

Dr. J. L. Zabriskie, of Flatbush, says that it prevails "to a very slight extent, in marked contrast to that which existed ten or fifteen years ago, when it prevailed largely in our town. Now it is a rare occurrence to see a well-marked case of intermittent fever. . . . Since the construction of Prospect Park there has been a steady decrease in the prevalence of malarial diseases, and it is the generally ac cepted opinion that the decline is due to the drainage and filling up of the many ponds and marshes which abounded in that part of the town. . . . In connection with this matter there is a fact that may be worthy of notice—viz., that many forms of children's diseases of the summer season, including dysentery, diarrhœa, and particularly cholera infantum, have been much less frequent, and, in their aggravated forms, are now seldom met with."

This completes the reading of the essential portions of all the letters. It was to be hoped that the whereabouts of some printed reports bearing upon the earlier history of malarial fever could have been ascertained, but all replies on that point were in the negative. So it appears, from these sources of information at least, that there are no published records of intermittent fever on Long Island up to the present date.

MALARIAL FEVER ON LONG ISLAND; ITS ÆTIOLOGY.*

By WILLIAM HENRY THAYER, M. D.,
BROOKLYN.

"With certain limited exceptions, periodic fever may be said to encircle the earth, in a broad belt, parallel with the equator, its northern and southern boundaries quite irregular in their disposition." (Bartlett.)

Its northern boundary in North America as an endemic is apparently regulated by two causes more or less combined: the character of the soil and the mean temperature. Drake † finds that a temperature above 60° F. continuing for two months, combined with dead organic matter and water in the soil, are necessary to the production of periodic fever. Hence it is found to prevail, westward of the Appalachian chain of mountains, from the Gulf of Mexico to the lakes, and in Canada West, in all low-lying and wet districts, in the valleys of rivers and lakes, even as far north as Montreal.

Eastward of the Alleghany Mountains, its northern boundary as an endemic coincides with the isothermal line of 70° F. of mean summer temperature, which, beginning about Sag Harbor, L. I., runs west-northwest to the Hudson River about West Point, thence north as far as Watervliet Arsenal, thence southwesterly through Carlisle, Pa. This places the greater part of Long Island, Westchester County, and the valley of the Hudson as far north as Watervliet, within the boundaries of the endemic; which will be shown to agree with the record.

When periodic fever has appeared in New England—which has been chiefly in Connecticut and western Massachusetts—it has been as an epidemic, advancing gradually year by year beyond the line of its usual habitat, up the valleys of the rivers and in the vicinity of ponds and swampy grounds, thence, after five, six, or more years, gradually receding. "When New England was first settled, fever and ague was one of the common diseases, being apparently incident to the clearing off of the forest." During the eighteenth century it seems to have disappeared until "1793, when it prevailed, in certain localities in the western portion of Connecticut and Massachusetts, until 1799, when it vanished and did not appear again until 1828, except in Sheffield, Mass., where it seemed to have obtained a foothold, for it appeared there three times during this interval. From 1828 to 1836 the same localities were affected as in the previous visitation. From 1836 to 1850 no cases occurred, so far as known, in any part of New England. But in 1850 it appeared in a swampy locality near New Haven, thence gradually spreading in various directions, reaching the Massachusetts line in 1877, and by 1882 having nearly crossed Massachusetts to the Vermont line." * It appeared in Rhode Island in 1880, but has not visited any other New England State.

In every place in which periodic fever has appeared outside its constant habitat it has been in low, wet grounds or on alluvial soil. But in most of these localities the soil conditions existed constantly prior to the appearance of the fever; and in many cases the fever disappeared while they remained unchanged. It is therefore evident that, in addition to temperature and soil-condition, another element in the ætiology of periodic fever must be admitted: that germ, or that emanation from the soil, which has hitherto evaded the researches of the scientist, but of whose existence, whatever be its nature, we are assured from the results.

In Connecticut and Massachusetts—as no doubt in many other regions—the swamps and low-lying grounds where intermittent fever appeared at the outset of the epidemic were then in the same condition in which they had been for years, while fever was unknown in their vicinity. In Berkshire County, Mass., the chief seats of the disease were around extensive mill-ponds on the Housatonic and the Hoosac Rivers, especially the new Lenox Reservoir and the Cheshire Reservoir, of which Dr. Adams, of Pittsfield, Mass., says "they were the same at a time when chills and fever were unheard of among us." Dr. Greenleaf, of Lenox, writes: "The condition of the reservoir has not materially changed for ten or twelve years"; that is, from four to six years before the first cases of intermittent in Lenox. Dr. Daniel E. Thayer, of Cheshire, writes that the Cheshire Reservoir has existed for fifteen years—ten years earlier than the first case of intermittent fever was seen in that vicinity.

One of the undetermined questions in the natural history of intermittent fever is its relation to continued fever. That some such relation exists is well known. Typhoid fever is the fever of the Eastern States. Drake says: "It belongs more especially to the North than to the South. Its base-line may be said to be in a high latitude and elevations, as the base-line of intermittent fever is in a low latitude and near the level of the sea; and, as we advance to the south, typhoid becomes rarer, just as intermittent becomes rarer in advancing to the north." Bartlett says: † "Typhoid fever is probably less common in those portions of the United States which are visited by the various forms of intermittent and remittent fever." He quotes Dr. Wooten, of Lowndesboro', Ala., on the subject of typhoid fever in his neighborhood as follows: "We have a high ridge of land, of sandy and gravelly soil, about six miles long and from one to three miles wide, and at its nearest point about three miles from the Alabama River. It is surrounded by prairie plantations and prairie sloughs on all sides, except that toward the river, where it is bordered by a low, pondy, and malarial country. In all the surrounding country intermittent and remittent fevers are an annual matter-of-course occurrence, while typhoid is extremely rare. But upon the ridge, where remittents and intermittents are of very rare occurrence, typhoid fever is of frequent occurrence; so that many planters would prefer remaining on their plantations, and having their regular turn of chills and fever, to residing on the ridge and risking this *slow fever*."

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* Read before the Medical Society of the County of Kings, December 16, 1884; being a portion of the Report of the Committee on Hygiene.

† "Principal Diseases of the Interior Valley of North America," by Daniel Drake, M. D.

* "Intermittent Fever in Massachusetts," by J. F. Alleyne Adams, M. D., of Pittsfield.

† "Treatise on Fevers," by Elisha Bartlett, M. D.

And it has been noticed that, where intermittent fever has spread as an epidemic over a part of New England, the typhoid fever endemic there has to a considerable extent disappeared for the time, to reappear on the subsidence of intermittent. The following extracts from a letter of Dr. Adams are a very interesting contribution to this history. He says: "It is a singular fact that, during the prevalence of malarial fever in Berkshire County, typhoid fever was almost unheard of; and, now that intermittent fever is dying out, typhoid is returning, marked, however, by a malarial element. The same sequence has been observed in Connecticut, and reported by Dr. Chamberlain in the reports of the Connecticut State Board of Health." ". . . Another fact is, that for a year or two before the appearance of intermittent fever in our vicinity, the cases of typhoid fever took on a similar character to that which they now exhibit; so that physicians hardly knew what to call them. There was often no diarrhœa, the attacks were shorter, and the mortality was diminished. These cases were the subject of discussion in our county society before malarial fever proper had begun to prevail."

The tables of mortality by typhoid fever, published in the Report for 1882 of the Connecticut State Board of Health, by C. W. Chamberlain, M. D., Secretary, and just referred to by Dr. Adams, show something of the same relations of typhoid and malarial fevers; the deaths from typhoid fever having fallen, from producing seven and three quarters per cent. of the total mortality in 1865, to one and three quarters per cent. in 1879, since which year the rate has been steadily increasing, while malarial fever has been abating in its prevalence. Dr. Chamberlain's table of the annual mortality by the two diseases for ten successive years gives the total number of deaths from typhoid fever in 1869 as four hundred and fifty-eight; in 1878, two hundred and fifty-two; from malarial fever in 1869, nine; and in 1878, one hundred and forty-three.

The relations of the two diseases require a much more extended investigation before we can be satisfied that they are thoroughly understood.

In much of Long Island intermittent fever is endemic. The work of the committee has been to give an outline of its history here, to show its relation to the soil and climate, to discover where and to what extent any efforts made for the removal of such of the local causes as are within control have been successful, and to indicate the course to be pursued in all cases to lessen its prevalence as far as practicable. To recapitulate the statements already made in the committee's report: intermittent fever is endemic throughout Kings and Queens Counties. In the northern part of Suffolk County, including the basin of Peconic River, it has prevailed since 1874, but was unknown for many years previously; while the southern part of Suffolk County—all that is south of the Peconic River basin, from Islip to Montauk Point—is free from malarial fever. But within the region specified as the habitat of the fever there are certain localities where it is yearly present in a marked degree, while in much of the region it is very moderate; and, as in New England and elsewhere, when in any year its prevalence is much increased, as by an epidemic influence, so here on Long Island, within the usual limits, its increase is largely in certain spots, in which the character and condition of the soil are such as are known to be specially favorable to its production.

Long Island is one hundred and twelve miles in extreme length from Fort Hamilton, at the Narrows of New York Bay, to Montauk Point, its eastern limit. An elevated ridge, beginning in New Utrecht at the western extremity of the island, runs northeasterly through Brooklyn, then marks the southern boundary of Newtown and Flushing, separating them from Jamaica, and continues in the same direction across North Hempstead and Oyster Bay. In the town of Oyster Bay the ridge extends southward as far as the northern line of Babylon, thence eastward across Huntington, the northern part of Islip and the center of Brookhaven—the Long Island Railroad running immediately south of the ridge, in the same general direction. The general elevation of this line of hills is from one hundred and fifty to three hundred feet. At Roslyn, in North Hempstead, on Hempstead Bay, is a hill three hundred and eighty-four feet in height, the greatest elevation on the island. From this ridge the land falls away somewhat toward the north, but at the shore of Long Island Sound still presents a continued bluff from eighty to one hundred feet in height.

The whole territory of Kings and Queens Counties, and all of Suffolk County north of the Long Island Railroad and Peconic Bay, and the hills near the Peconic River on the south—thus including all the elevated part of the island and the whole of Kings and Queens Counties—has a soil consisting of unmodified drift, in which is a large amount of clay, or having an impervious substratum of clay at varying depth, sometimes coming to the surface, or lying very near it, or at the depth of forty or fifty feet. There are many superficial clay-basins, quite impervious to water, forming, therefore, the beds of ponds or swamps along the north shore and toward the center of the island.

Wherever we have the clayey soil or subsoil, there we find intermittent fever.

The south shore, from Islip to Montauk Point, has a sandy soil, with a fall of from sixty to ninety feet from the foot of the hills* in the center of the island to the seashore, through which numerous streams of lively water run and empty into the Great South Bay or into the Atlantic Ocean. This region has no malarial fever.

Next to the natural history of intermittent fever in Long Island which the committee have been able to present, is the question how far the fever has been lessened or removed by the improvement of the soil by drainage or other means.

In Kings County there are some notable instances of the benefit derived from thorough and systematic drainage. "A prominent example exists in the vicinity of Prospect Park, Brooklyn. The whole region of the park, comprehending over six hundred acres, was, previous to drainage, notoriously malarious; scarcely a family escaped autumnal intermittent fever. It is now an admirable specimen of systematic drainage and water circulation, and intermittent fever in its immediate neighborhood is rare" (1874). The same is true of Flatbush and New Utrecht. Prior to 1873, in the town of New Utrecht and at Bay Ridge (which lies between New Utrecht and Gowanus Bay) intermittent fever was very prevalent. There was "a continued line of marshlands, about four miles in width, from the northern line of New Lots, through Flatbush and New Utrecht, to Fort Hamilton, comprehending an area of over one hundred thousand acres."† The ponds and swamps in New Utrecht, about one hundred in number, covered a territory of six hundred and forty acres. At that time (1873) a system of thorough drainage was begun in New Utrecht, under authority of the New York Legislature, by which these ponds were emptied into the bay, the clay which formed their basins being impervious to water; and, although the drainage is not entirely completed, owing to insufficient appropriations, yet a very marked improvement has been shown in the health of the neighborhood, intermittent fever having nearly disappeared in Flatbush and New Utrecht. That part of Bay Ridge which is within the limits of Brooklyn has also been rid of fever since the hollows were filled and built upon. Good circumstantial evidence of the disappearance of intermittent fever in New Utrecht is found in the fact that, whereas quinine was formerly always in stock at the "store," it is no longer kept for sale.

It is probable that a considerable portion of the island now subject to malarial fever is capable of drainage to such an extent as to cause its disappearance; but there are clay-basins where such drainage is probably impracticable.

The general history of malarial fever is full of its relations to the accumulations of water in the soil, and presents many instances of the successful extermination of the disease by thorough drainage. In every epidemic of intermittent fever in New England the disease has invariably appeared first in swampy lands and in river bottoms; and, although gradually spreading to some extent to higher lands, it has not extended far, nor disappeared from the low lands, until the local causes were removed or the general epidemic had terminated.

In Rhode Island few cases of malarial fever had been noticed prior to 1880.* In that year a very serious epidemic occurred at the works of the Nayatt Brick Company, in Barrington, R. I. Nearly every one of the workmen (French Canadians) employed at the brickyard had intermittent fever at some time during that summer. The whole district is very low, and covered with swamps and marshes. In 1881 the disease had appeared in every part of Rhode Island in which swamps and marshes abound. And at the present date (November, 1884) there has been no abatement in the prevalence of malarial fever in the State, the terrestrial conditions being virtually unchanged. These conditions of the soil are, however, the same as they had been for years before the first intermittents were seen in Rhode Island.

In Massachusetts the chief places where intermittent fever appeared were in the Connecticut and Housatonic valleys. In the Connecticut valley the cases weremostly in Springfield, Chicopee, and Holyoke, beginning in 1879 and 1880, in which towns 1,250 cases were reported in 1880—a greater number than occurred in all the rest of the State.†

The agency of decomposing vegetable matter in connection with moisture, in the ætiology of intermittent fever, is well illustrated by the history of an epidemic in Coboconk, a small village in the Province of Ontario, published in the First Annual Report of the Provincial Board of Health, Ontario, 1882. The settlement is mostly on an island in Gull River, with some houses on either bank, and a large saw-mill. The river is dammed, making a large lagoon on one side of the island. For several years previous to the date of the report (1882) almost every inhabitant of the village was affected with malarial fever. The river had been dammed for twenty-five years and the vicinity had been swampy, but in all that time there had been no fever. A few years ago, however, a large saw-mill had been established on the west bank, and sawdust had accumulated on the bank, and now extends one hundred feet into the river and up and down the bank for one hundred yards or more. This has been decaying, and emitting an offensive odor. "We have many other well-known instances," the report goes on to say, "where malaria has been practically unknown until the sawdust from the mills had been exposed to the action of the atmosphere (and water?) for several years; when decomposing, it formed, as we must suppose, a favorable *nidus* for the development of malaria germs." "No malaria occurs again along the Gull River until some saw-mills seven miles above Coboconk are reached, when it reappears. The same fact has been noticed in the neighborhood of saw-mills on the river Moira." "At Fenelon Falls the sawdust of the mills there had been spread out over the open common and left to decompose. Malaria followed; but later on a kiln was built, in which all the sawdust has since been burned, a great decrease in the prevalence of malaria following as a result."

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* The Long Island Railroad has an elevation at Hicksville of 142 feet; at Farmingdale, 63 feet; at Suffolk Station, 90 feet; at Medford, 82 feet; and at Riverhead, 32 feet.

† Report of the Committee on Hygiene, etc., Dr. A. N. Bell, Chairman.

* Report of the State Board of Health of State of Rhode Island, 1882 and 1883.

† "Intermittent Fever in Massachusetts," by J. F. A. Adams, M. D., of Pittsfield, Mass.

Dr. George J. Fisher, of Sing Sing, furnished the following evidence to "The Sanitarian" in 1874: "I have resided in Sing Sing twenty-three years, during which period the village has enjoyed a remarkable immunity from intermittent fever and every form of malarial disease, with two slight exceptions. In the year 1866 or 1867 a culvert on the Hudson River Railroad was obstructed by dumping rock and sand, which detained a great deal of animal and vegetable matter, within an estuary or pond of an acre or more in extent. This resulted in the development of intermittent fever in all the families living near this exceedingly impure and stagnant water. The reopening of the culvert to the free entrance and exit of the tides resulted in the entire disappearance of fever. The second exception was first observed three or four years ago, when a considerable number of houses—say, over thirty—were erected in the southern end of Spring and State Streets. Parallel with and lying between those streets is a valley which has never been well drained, but of late the drainage has been so defective as to amount to obstruction. Intermittent fever appeared in the immediate neighborhood of the valley, where the disease was previously unknown. Proper drainage would doubtless promptly restore the original salubrity of this locality."

It is a well-established fact that submerged lands become more dangerous when a lowering of the water again exposes them to the sun and air. Some observers on Long Island have noticed an increase of fever when the water-level in the soil had fallen ten and twenty inches.* In this connection a report on the annual rainfall is interesting. The record kept in New York city † pretty well represents the rainfall of Long Island and Connecticut. The following is a summary of the record for the last forty-seven years:

Mean annual rainfall for 47 years (1837 to 1883) = 46·02 inches.
" " " " 10 " (1851 to 1860) = 48·12 "
" " " " " " (1861 to 1870) = 53·12 "
" " " " " " (1871 to 1880) = 43·47 "
" " " " 3 " (1881 to 1883) = 37·26 "

But the decline in the amount was very considerable from 1879 to 1883, and for the five years was 37·28. And the rainfall in 1883 was only 30·22.

During the last three years there have been long droughts, so that the springs have not in all that time been up to their usual level—a condition that might be anticipated from the summaries given above; and the terrestrial conditions favorable to intermittent fever have been in full operation.

The present epidemic in the eastern part of Long Island has already continued about eleven years—several years longer than the epidemics of 1793–'99 and 1828–'36 in western Connecticut and Massachusetts; and the unusual continuance may very well be due to the much-diminished rainfall of the last five years.

The results of the committee's investigations may be summarized thus:

1. Long Island lies within the endemic range of malarial fever.

2. Even within the endemic limits, any region which has a sandy or gravelly soil—therefore completely porous and well drained—and containing no decaying organic matters, is free from malarial fever.

3. North of the endemic limits malarial fever spreads as an epidemic at varying intervals of time, appearing first only on wet soils, or on the swampy margins of ponds, where humus and decaying vegetable matters are exposed to the air; thence extending slowly, and to short distances, to a few individuals on higher and drier ground, whither it is apparently carried by the wind.

4. Thorough drainage of any tract within the endemic limits reduces the occurrence of malarial fever to a minimum, and beyond the endemic limits entirely removes it.

5. While it is highly probable that malarial fever is directly due to some organic germ, yet it is established that such germ can be developed only where water is retained in the soil.

PHOTOGRAPHY APPLIED TO GYNÆCOLOGY.*

By JOHN MERRITT, M. D.

Mr. President and Gentlemen: To-night I have the pleasure of offering for your inspection some photographs of the cervix uteri which I have taken. More than eight years ago I experimented somewhat in this direction, but the obstacles encountered interrupted the work.

Gelatin dry plates were not at that time in the market, and the difficulty of preparing emulsion plates can be appreciated only after a trial. To-day the ready-sensitized, rapid plates are used for all purposes except some styles of gallery work. To accord with improvements in this direction, new forms of cameras have appeared with essential changes in many parts. Reduction in size has increased their adaptability.

Taking advantage of these facts, I have been photographing for some time past, and now desire to call your attention to the ease and rapidity with which illustrations of many physical conditions of the vagina and uterus may be obtained. The hand-camera which I use for this work differs in some essential points from that employed by Dr. T. R. French in his throat photography. Both are made as narrow as possible to afford the least obstruction to light. Of course, no throat-mirror is required. In his camera, the focusing is done by varying the position of the lens; but in mine the lens remains fixed, while sharpness is attained by the "focusing guide" which regulates the distance of the plate from the object. The sensitiveness of the plate and rapidity of exposure obviate the necessity for a stationary camera.

At the outset, proper illumination of the vagina seemed an insuperable obstacle, but, by patient experimenting on my part, the difficulties have disappeared one by one, and I can now assert that photographs of the cervix uteri may be made with ease and rapidity, and that representations of the parts can thus be obtained more expeditiously and with greater accuracy than in any other way.

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* Pettenkofer made a similar observation in relation to typhoid fever in Europe.

† N. Y. Meteorol. Observatory, Central Park, etc.

* Read before the Brooklyn Pathological Society, January 22, 1885.

Direct sunlight was tried, but it was found inconvenient to elevate the pelvis sufficiently to avoid shadows, and was therefore abandoned. The use of the head-mirror requires the operator's head to be inconveniently low. A concave mirror placed on an adjustable stand will often give good results. The preference is decidedly for sunlight concentrated to a small beam of more or less parallel rays, as being more controllable and insuring better results.

The condenser I use has a fixed arm, parallel to the beam of light, at the end of which is a concave mirror with a universal joint that enables the size of the beam to be adjusted to the field to be illuminated, and then directed as desired; thus the whole beam of light is thrown into the speculum. Any speculum may be used. I have found Taylor's very satisfactory.

I have not to-night portrayed pathological conditions of the cervix or vagina, but have endeavored only to call attention to the facility of an operation so valuable to the profession, and yet involving no additional discomfort to the patient. I have photographed a cervix several times, the patient being aware of it only when informed afterward.

With the patient arranged for an ordinary vaginal examination, the light is thrown through the speculum to the objective point, and in less than five minutes a dozen pictures can be taken.

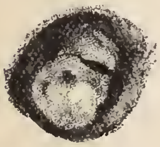

FIG. 1.

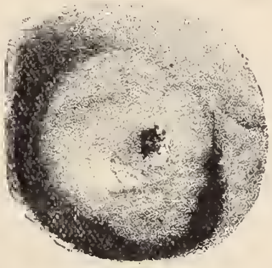

FIG. 2.

Explanation of the Illustrations.—Fig. 1 shows the actual size of photograph taken. Fig. 2 is an enlargement of the same. These figures are reproductions of drawings made from my photographs.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Kirkes's Hand-Book of Physiology. By W. Morrant Baker, F. R. C. S., Surgeon to St. Bartholomew's Hospital, etc., and Vincent Dormer Harris, M. D. Lond., Demonstrator of Physiology at St. Bartholomew's Hospital. Eleventh Edition, with nearly Five Hundred Illustrations. Vol. I. New York: William Wood & Co., 1885. Pp. ix–373. [Wood's Library of Standard Medical Authors.]

Our Bodies; or, How We Live. An Elementary Text-Book of Physiology and Hygiene for use in the Common Schools, with Special Reference to the Effects of Stimulants and Narcotics on the Human System. By Albert F. Blaisdell, M. D. Boston: Lee & Shepard, 1885. Pp. vi–285.

Helps to Health: the Habitation, the Nursery, the School-room, and the Person; with a Chapter on Pleasure and Health Resorts. By Henry C. Burdett, Founder of the Home Hospitals Association for Paying Patients, etc. With Nineteen Illustrations. London: Kegan Paul, Trench & Co., 1885. Pp. x–249.

Correspondence.

LETTER FROM WASHINGTON.

National Sanitation.—The Need of Biological Work.

WASHINGTON, *March 1, 1885.*

IN another week the anxious sanitarians who have so busily plied Congress with memorials, and circulated the leaders of friendly editors, will be able to sum up their work and see what fruit their labors have brought forth.

The Deficiency Bill passed by the House makes an appropriation to pay the expenses of the National Board of Health incurred during the last year, and abolishes that body by providing that "all acts and parts of acts creating a National Board of Health are hereby repealed." The Sundry Civil Bill passed by the House appropriates $300,000 to be expended at the discretion of the President of the United States, under the direction of the Marine-Hospital Service. As both bills were passed under a suspension of the rules, there was no debate, but Dr. Evans, a member of Congress from Pennsylvania, obtained leave to print an elaborate defense of the board, which appears in a recent number of the "Congressional Record." The friends of the board rely on the practice of the Senate, in regard to general legislation upon appropriation bills, to strike out from the Deficiency Bill the fatal repeal of their organization. There seems to be a growing feeling that the board, notwithstanding the efforts of its friends, has steadily lost ground, that what is needed in the United States at the present time is a biological laboratory, which could easily be managed by the Naval Museum of Hygiene, under the general direction of the National Academy of Sciences—a laboratory similar to those of Koch and Pasteur; and it is thought that, by the next meeting of Congress, the National Academy of Sciences may perfect a plan for the practical working of such a laboratory, under governmental auspices, that may do much toward placing that branch of scientific investigation upon as good a footing as the Coast and Geological Surveys, or the Naval Observatory. The desultory and misdirected work of the past few years has been barren of results, as might have been expected from the lack of concentration. The talk about any national organization being "completely equipped" for the necessary work of this nature is the merest assertion, and is contrary to the fact. The National Board never had an organization so equipped, so far as a scientific corps is concerned, and it never had an equipped biological laboratory. It is true that certain well-known investigators were engaged to conduct certain researches, but they employed their own methods in their own way; there was no harmonious direction, such, for instance, as has made the Smithsonian Institution one of the most useful of governmental agencies for the diffusion of knowledge. A simple shriek for an appropriation, however shrill and prolonged, will not suffice to convince Congress, or anybody else, that money ought to be given blindly, and, until there is union upon an intelligent plan, Congress is quite likely to continue the method of appropriating for executive work only. But that does not touch the real need of the country, which is that of methodical, systematic, *concentrated* biological work.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MARCH 7, 1885.

THE DEPOPULATION OF FRANCE.

This subject is attracting serious interest among French savants. At a recent meeting of the Academy, M. Lagneau presented a forcible paper containing statistics of a startling character. In the discussion, M. Jules Rochard made an admirable address, which abounded in good sense, as well as in patriotism. He calls attention to the fact that France, which two centuries ago included one third of the total population of Europe, now contains but one tenth. This diminution, he says, must be due to one of two causes, either an excessive mortality, or a diminished number of births. The former factor may be eliminated at once, for the death-rate in France is really lower than in most other European countries. Since it may be inferred that the number of births has decreased, he seeks for an explanation of the fact. In the first place marriages are becoming infrequent, and secondly there is a widespread belief in the Malthusian doctrine, so that means are resorted to for preventing conception. M. Rochard boldly states that the increasing populations of England and Germany may be explained by the higher standards of morality which exist in those countries.

But it is not only to the actual preventing of offspring that the present condition of affairs is due. A large number of French women, says the writer — and here his ideas agree closely with those expressed by Dr. Emmet in the introductory chapter of his "Gynæcology"—are sterile, undoubtedly as the result of their unwise training, their defective physical development, and their luxurious habits. Nor are their husbands free from fault, since the notorious dissipation of the French youth unfits a large number of them for their marital duties. Rising above the purely medical aspects of the case, M. Rochard, with the glowing patriotism of a true Frenchman, warns France that, menaced as she is by armed neighbors, she should be "ready in the hour of peril to throw an army of a million of men upon her frontier."

"It is time," he adds, "that France should recognize the danger which menaces her, and that she should be made to comprehend the full extent of her social peril." If a reform is to be inaugurated, it must be through the agency of the physician, who, by his intimate relations with families, is enabled to accomplish more than any one else. Upon him devolves the sacred duty of saving his country from destruction.

THE PRESENT STATUS OF THE GERM THEORY.

Undoubtedly there are many of our readers who are convinced that Klein has dealt a staggering blow to that particular phase of the germ theory which teaches that the comma bacillus is the *contagium vivum* of Asiatic cholera, and there are many who seem willing to admit that Tait has fairly unhorsed Listerism. This surgeon, with defiant enthusiasm, rejects antisepticism *in toto*, and, insisting only on the most punctilious cleanliness, sunshine, and ventilation, boldly ransacks the abdominal cavity, washing it out with sponges that are scrupulously clean, but not specially asepticized, and undertakes every every variety of extirpation with as much confidence as ordinary surgeons amputate an arm or tie an artery.

In this country the weight of evidence, with certainly a great preponderance of authority, is unequivocally in favor of a rational observance of Listerian principles; and, whatever may be the final fate of the germ theory, which many investigators have come to consider as quite positively demonstrated, it is evident that extreme and inflexible views on either side of the question are not in accordance, in its present status, with the true scientific spirit, and not calculated to evolve the truth that must underlie the whole discussion.

Even if we admit, as is asserted by Mr. Tait's admirers, that Listerism is of no importance beyond the systematic cleanliness it involves, it must be acknowledged, nevertheless, that much better results are now produced by surgeons in general than were seen before the practice came into use. However we may try to account for this fact, certainly great praise is due those who have done so much to rob surgery of its danger and uncertainty, whether indirectly or as the strict consequence of their theories.

A HARDSHIP TO MEDICAL WITNESSES.

We would call the attention of the Legislature to another item of legislation, relating indirectly to the profession, which needs attention. As the law now stands—and, if we are correctly informed, it is a provision of a resurrected code which has practically lain in a state of mummification for half a century or less—it compels medical men and others to obey the subpœna of any legislative committee at even the most inclement and the busiest season of the year, and give their testimony touching subjects of investigation, and in return tenders them fifty cents a day for attendance and four cents a mile for travel.

As an example of the injustice of this law let us cite a single case which occurred during last winter's session in connection with Senator Low's Committee on Adulterations. An active practitioner from an extreme northern county, whose trip to the capital involved forty or fifty miles of staging in the midst of the worst snow blockade of the season, requiring four or five days of absence from his patients, and traveling expenses, including a day in Albany, of not less than forty dollars, was remunerated with a paltry fifty cents for a day's attendance, and less than twenty dollars for mileage. And this in the face of the fact that he was called on to give what amounted to expert testimony.

No private citizen or corporation would have asked any professional man to leave his pressing business engagements and give five days' time without tendering him a handsome fee per diem and all his expenses while going and coming to court. Is the commonwealth of New York more parsimonious than individuals or corporations? A law should be framed covering such contingencies in future, and at least a minimum price fixed on the value of expert testimony. Dragging medical men five hundred miles away from their busy vocations, in dead of winter, or at any season of the year, and compelling them to testify in the line of expert evidence, and then sending them home with barely half enough to cover traveling expenses, without a cent of remuneration for their time, is an injustice which could exist only by palpable oversight on the part of the lawmakers; and it would seem that, to be righted, it need only have attention directed to it.

MINOR PARAGRAPHS.

TREPHINING THE FRONTAL SINUSES.

In a recent number of the "Medical Chronicle," Mr. Ogston, of Aberdeen, states that he has practiced this operation in several cases of obstinate catarrhal disease in which other treatment was unavailable. The symptoms indicating this measure were constant pain at the root of the nose and above the orbits, increased on deep pressure, with periodical discharges of thick, yellow pus. The operation consists in making a vertical incision two centimetres long in the median line, between the eyebrows, after which the periosteum is carefully lifted from the bone and the sinuses are opened with a small trephine. The diseased mucous membrane is removed with a sharp spoon, and a strong solution of chloride of zinc is applied to the interior of the cavity. Drainage is established through the nose.

This radical procedure (by no means new, since it was practiced by von Langenbeck) has received a decided impetus at Mr. Ogston's hands; but, in spite of the fact that he reports a cure in every case, and with no recurrence of the trouble, conservative surgeons will be apt to hesitate before resorting to a measure that seems to be of such an heroic nature.

THE CURE OF ILEUS BY IRRIGATION OF THE STOMACH.

From a communication made by Dr. Cahn to the "Berliner klinische Wochenschrift," it appears that the operation of irrigating the stomach, to which brief reference is made in another column, has a wider application than was supposed when it was first suggested. Professor Kussmaul, in whose clinic at Strassburg the successful cases of its employment for ileus occurred, explains the fortunate result of the treatment on the ground that, by washing out the stomach, we relieve the tension above the point of constriction, caused by gas and accumulated fæces, and at the same time restore the normal peristaltic action. By a consequent change in the position of the affected coil of intestine the twist is removed. Whatever the explanation of the effect may be, it is certain that in this comparatively simple manipulation there seems to be a remedy for a condition which heretofore has seldom been relieved except by a formidable operation.

THE HEALTH OF GENERAL GRANT.

We regret that we have no information that would warrant our undertaking to allay the popular apprehension which has been raised in regard to the condition of General Grant; we can only join in the general feeling of anxiety. We may be permitted, however, in our own interest, to point out an error into which one of the physicians in attendance upon the General seems to have fallen, if he was correctly reported in the "Mail and Express" of last Saturday. He is reported to have said: "What was my surprise to see a rose-colored statement published the following Saturday in the 'Medical Journal,' and copied by other papers, stating that I said General Grant was better! I did not authorize any such statement, and wonder that just the opposite of what we decided in consultation should be published." This journal has not before made any allusion to General Grant's health, and it was, therefore, not in our columns that anything was published that could have worried the distinguished sufferer or embarrassed his medical advisers.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 3, 1885:

DISEASES.	Week ending Feb. 24.		Week ending Mar. 3.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever	10	4	4	2
Scarlet Fever	93	20	103	12
Cerebro-spinal meningitis	4	3	2	2
Measles	112	26	171	29
Diphtheria	55	25	58	25

The Bellevue Hospital Medical College will hold its twenty-fourth annual commencement at the Metropolitan Opera House on Monday, the 9th inst. The programme includes addresses by the Hon. William Dorsheimer and Mr. Andrew Carnegie.

The University of Buffalo.—At the recent annual meeting of the Alumni Association of the Medical Department, held on Tuesday, February 24th, the exercises were particularly interesting, and we regret that lack of space prevents our giving a summary of them. Officers for the ensuing year were elected as follows: President, Dr. F. E. Dewey, of Peterboro, N. Y.; vice-presidents, Dr. C. Diehl, Dr. D. W. Harrington, and Dr. Mary Berkes, of Buffalo, Dr. Charles Van Pelt, of Toledo, Ohio, and Dr. W. J. French, of West Valley, N. Y.; secretary, Dr. J. J. Walsh, of Buffalo; trustees, Dr. C. C. Wyckoff, Dr. W. C. Phelps, Dr. P. W. Van Peyma, Dr. Henry Lapp, and Dr. E. C. W. O'Brien; executive committee, Dr. C. A. Ring, Dr. F. H. Potter, Dr. J. W. Putnam, Dr. Charles Cary, and Dr. F. E. Dewey.

The Hospital Medical College, of Evansville, Ind.—At the recent annual commencement the degree of doctor in medicine was conferred on six candidates.

The Arkansas Industrial University.—At the sixth annual commencement of the medical department, held Friday, February 27th, the degree was conferred on eight candidates, and the honorary degree on Dr. W. M. Lawrence, of Batesville.

An Appointment under the Civil Service Rules.—We learn that Dr. Robert L. Dickinson was lately appointed, out of a large number of candidates examined, to the position of surgeon to the Brooklyn police force.

The Paterson Training School for Nurses.—Miss Clara S. Weeks, a graduate of the New York Hospital Training School for Nurses, has taken charge of the training school at Paterson, N. J.

The Paris Faculty.—The "Gazette hebdomadaire de médecine et de chirurgie" announces that M. Grancher has been appointed clinical professor of diseases of children.

Civil Service Examination of Health Officers.—Candidates for the position of Health Officer to the various local boards of health in the State of New York may be interested to learn that the Civil Service Commission has announced that the subjects embraced in the examination will be covered by Wilson's "Handbook of Hygiene," or the larger works by Parkes and Buck. Opportunity is thus given beforehand to those who wish to refresh their memories of the elements of public hygiene.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 21, 1885, to February 28, 1885:*

Bentley, Edwin, Major and Surgeon. Relieved from further duty at Fort Clark, Texas, and assigned to duty as Post Surgeon, Fort Brown, Texas. S. O. 17, Department of Texas, February 16, 1885.

Taylor, M. E., Captain and Assistant Surgeon. Assigned to duty at Fort Stanton, New Mexico, as Post Surgeon. S. O. 29, Department of the Missouri, February 21, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending February 21, 1885.*

Battle, K. P., Assistant Surgeon. To proceed to Pittsburgh, Pa., for temporary duty. February 19, 1885.

Resignation.

Heath, W. H., Passed Assistant Surgeon. Resignation accepted, as tendered, by the Secretary of the Treasury. February 14, 1885.

Promotion.

Kalloch, P. C., Assistant Surgeon. Promoted and appointed Passed Assistant Surgeon, by the Secretary of the Treasury, from March 1, 1885. February 19, 1885.

Purviance, George, Surgeon. Granted leave of absence for one week. February 24, 1885.

Kalloch, P. C., Assistant Surgeon. When relieved, to proceed to Pittsburgh, Pa., and assume charge. February 27, 1885.

White, J. H., Assistant Surgeon. To proceed to Savannah, Ga., and assume charge. February 24, 1885.

Society Meetings for the Coming Week:

Monday, *March 9th:* New York Ophthalmological Society (private); New York Medico-Historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private).

Tuesday, *March 10th:* New York Medical Union (private); New York Surgical Society; Medical Societies of the Counties of Chemung (Elmira) and Rensselaer, N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private).

Wednesday, *March 11th:* New York Pathological Society; American Microscopical Society of the City of New York; New York Medico-Legal Society; Medical Societies of the Counties of Cayuga and Montgomery, N. Y.; Pittsfield, Mass., Medical Association (private); Worcester District, Mass., Medical Society.

Thursday, *March 12th:* Harlem Medical Association of the City of New York; Society of Medical Jurisprudence, New York; Brooklyn Pathological Society; South Boston, Mass., Medical Club (private).

Friday, *March 13th:* Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *March 14th:* Obstetrical Society of Boston (private).

Letters to the Editor.

A CASE OF INJURY OF THE HEAD.

Richmond, Ky., *December 8, 1884.*

To the Editor of the New York Medical Journal:

Sir: Having been called in consultation to see a very unusual and interesting case of head injury, followed by a peculiar train of symptoms, with recovery after eleven days of unconsciousness, I take pleasure in presenting the case to your readers, hoping to partially verify the statement of Liston, that no case of injury to the head is too trivial to be despised, or too serious to be despaired of.

On November 14, 1884, Lida Turner, aged eleven years, was thrown from her horse while attempting to pass under an overhanging limb. Her foot hung in the stirrup, and the horse dragged her a distance of a hundred yards. She had her foot extricated by the horse stepping upon the calf of the disengaged leg, which caused the stirrup-leather to break.

On being taken into the house, she was found to be thoroughly unconscious and suffering from all the symptoms of cerebral concussion. The family physician, Dr. Jennings, arrived in half an hour, and found that her father was administering stimulants and making warm applications to the surface. Reaction, so far as the circulation was concerned, was brought about in a few hours. Tincture of digitalis was then given to control the pulse. On examination of her body, a deep cut was found on the left calf, the skin was rubbed from the prominent points over several ribs, there was a cut over the shoulder blade, and a slight bruise over the right temple, with an ecchymosis of the conjunctiva of the corresponding eye. The skin was unbroken over the entire scalp, and, so far as we could determine, there was no fracture of any bone of the head. On the second day she was found unconscious to all her surroundings, with the exception of the pain which she suffered on being moved, which caused her to make a crying noise, although no tears were shed. She would not evince any sign of recognition on being called in a loud tone of voice. Her eyes were closed, and she appeared as if sleeping. When food was placed in her mouth she would swallow it in a mechanical way. She showed no disposition to help herself or to move her limbs, although the only paralysis noticeable was a slight immobility of the muscles of the right side of the face. She remained in this semi-comatose state for eleven days, during which time her appetite never failed her, nor was there any trouble with her bladder or bowels. On three or four occasions a soap suppository was used, and once an enema given. During this time her pulse fluctuated between 96 and 108. The temperature varied from 99° to 101°. The pupils were slightly dilated, but responding readily to light.

On the twelfth day she would arouse on being spoken to in a loud tone, and would make answer to the first question asked her if the answer only required the use of yes or no; but, on being asked a second or third question, she would seem confused and unable to express herself. From the twelfth to the eighteenth day she began to recall gradually her vocabulary, but found great difficulty in expressing her thoughts, owing to several words, which seemed to be continually on the end of her tongue, falling in a random way in the midst of her sentence, which would make her efforts at talking quite ludicrous. These words were *rat*, *cat*, *fat*, *crack*.

I would note here that a vesicular eruption appeared along the course of the facial nerve of the right side.

Another interesting feature of the case was the change in the child's disposition. Before the accident she was very choice in her language and of a very amiable disposition; but, on returning to consciousness, she was cross and abusive, and seemed to make an effort to find ugly words to express her dislikes. On this the twenty-second day she is sitting up and quite recovered, with the exception of an inability to carry on a protracted conversation.

The treatment was mostly on the expectant plan. On three days eight-grain doses of potassium bromide were given every three or four hours, afterward only as needed.

From the eighth to the twelfth day stimulants were administered at short intervals, as the pulse was disposed to intermit. On the fourteenth day, finding the patient disposed to be drowsy most of the time, and other symptoms calling for it, we began the use of sulphate of strychnine, gr. $\frac{1}{120}$ ter die. She improved rapidly after beginning the last remedy.

Respectfully,
John M. Foster, M. D.

THE PROPOSED BUREAU OF HEALTH.

United States Marine Hospital,
San Francisco, Cal., *January 26, 1885.*

To the Editor of the New York Medical Journal:

Sir: In your issue of the 17th inst., which has just come to hand, I notice a letter from Washington, in which the correspondent speaks in terms of commendation of a new health bill, recently introduced by Senator Palmer, of Michigan, into the United States Senate, creating a "Bureau of Health" in the *Treasury Department.* Your correspondent states that the bill is the "most elaborate and practical of any yet introduced." He then gives a summary of its provisions. Judging from that statement, one might think the bill elaborately foolish and practically dangerous. The "Commissioner of Health" is to have powers far beyond those of the President of the United States, the latter being obliged to detail for special purposes, to be determined by the former, surgeons of the army and navy on the application of the Commissioner. He is to be above Congress, as he may prohibit the use of "*all goods designed for food or drink of man, for wearing apparel, or for furniture or decoration of habitations,*" as he, in his infallible judgment, may determine to be "so *poisoned by adulterations* as to be dangerous to human life or health!" Fancy the Commissioner issuing an edict declaring pork and beans or ice-cream, corsets and patent-leather shoes, colored lunch-cloths and steam radiators, "contraband of commerce!" Imagine the Commissioner, endowed with preternatural vision, announcing to the ignorant, thoughtless public that an epidemic has invaded our country, and forthwith appointing an army of "competent physicians," at "$10 a day and expenses," to go forth to battle with the invisible hosts! Think of the poor citizen stripped of his coin to the tune of $1,000, and languishing in a dismal prison-cell for a year, because he dared to violate a provision of this mighty Act or some "*regulation authorized by it!*"

Consider how charming it will be to receive the "Weekly Bulletin" *free*, and feast on the "useful sanitary information" promised us therein! Then it should not be forgotten how near the millennium we shall be when the Commissioner (puissant and omniscient) promulgates his "code of regulations for the practice of medicine, surgery, and midwifery, in places within the jurisdiction of the United States!"

But, Mr. Editor, I have not time to dwell longer on these considerations now, and will conclude by expressing the hope and belief that the Congress of the United States will never be so careless in legislation as to stultify itself by passing the bill referred to. The medical profession throughout the country should see to it that no such bill be allowed, by inadvertence, to become a law.

Jno. Vansant, M. D.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of February 23, 1885.

The President, Dr. Daniel Lewis, in the Chair.

Cholera; its Mode of Introduction; its Prevention and Treatment.—Dr. John C. Peters read a paper on this subject. Cholera, he said, had been introduced into North America only at three different places, New York, New Orleans, and Quebec. The contagion had never been blown into this country, otherwise it would have reached points to which vessels had to pass close in entering those ports. The epidemic which was introduced at Quebec was traced up the lakes, and down the Mississippi River to New Orleans. Cholera appeared at nearly the the same time at New York, and in 1848 it was brought almost simultaneously to New York and New Orleans. From the latter place it was carried up the Mississippi, was taken by emigrants to California and the territories, and also reached San Francisco by vessels from New York. In 1854 it entered New Orleans, was carried up the Mississippi, and reached Niagara Falls before New York had any cases. The outbreak in this country in 1866 started from cases which reached the port of New York the latter part of 1865. In April or May, 1865, cholera existed in Calcutta, from there was carried to Mecca, reached Europe by way of Marseilles, and finally was conveyed to America. In 1873 the disease was introduced at New Orleans, in what manner could not be learned, but from there it spread to Memphis and to Nashville. Bombay had had cholera every year since 1848, but with a gradual diminution of the death-rate, commencing with improved sanitary conditions. There was some difference of opinion as to the exact manner in which the cholera had reached France from Bombay in 1884. The speaker thought it came by way of the Red Sea and the Suez Canal to Damietta, from there was spread over Egypt by the fleeing citizens and visitors, and from Egypt reached France. He was disposed to think the rise of the river Nile did more toward freeing Egypt of the plague than the sanitary laws of the English. Dr. Peters condemned the way in which Marseilles had concealed the origin of the disease, as it was now said to have existed there before it reached Toulon. He referred to the interesting fact that Lyons, on account of its excellent drainage by two rapid rivers, had had almost entire immunity. The advantages of an effective quarantine were illustrated in Denmark, which had always escaped cholera, except on one occasion, when it raised its quarantine; and also in Greece, which did not have a cholera epidemic until the quarantine was forced by the French and English during the Crimean War.

With regard to the manner in which the cholera was conveyed, Dr. Peters believed it was always by ships, caravans, pilgrims, and clothing, and not by the wind (at least to any extent). Several hypotheses as to the manner in which the cholera was conveyed had been suggested and exploded, one of which originated with himself, namely, that ocean currents carried the germs of the disease. Another was that earthquakes and volcanoes favored its outbreak. Dr. Peters was of the impression that during the present year cholera would probably first break out in Spain, be conveyed from there to Cuba, and from Cuba to the Southern States. Its occurrence in Spain, however, would have no connection with the earthquakes in that country. The speaker further traced the origin of cholera on Blackwell's Island, among the soldiers, etc. It was his opinion that a person did not get cholera without swallowing some of the contagious element, either with the food, water, or by other means, and one of the most important safeguards against this was the use of clean towels and frequent ablution of the hands. He did not believe that any form of diarrhœa not of choleraic origin would end in cholera without the introduction of the germs of the specific disease, just as occurred before the development of cholera in a healthy person. It was proper, however, to treat every case of summer diarrhœa as if it were one of Asiatic cholera.

Recent Researches in Cholera.—Dr. E. C. Wendt read portions of a long paper on researches into the cause of Asiatic cholera and the theories which had been advanced in explanation of its origin.

The Artesian Wells of New York as affording Potable Water.—Dr. Cyrus Edson, of the Committee on Hygiene, read a paper, in which he showed that cholera had often been spread by drinking water contaminated by privy and sewage poison in cities. The water supply of some towns and cities constituted a sort of endless circulation: well, man, privy, well. Regarding the wells of this city, which varied in depth from less than a hundred feet to a number of hundreds of feet, they all received their water from the surface or sewage drainage of the city itself, and not from a distance. This fact was due to the peculiar geological formation of the island. In Paris it was different; there the water supply of the artesian wells came from the drainage of land outside of the city, and passed through a disinfecting stratum. An analysis of the water from the wells on Manhattan Island showed that it all contained sewage. It was for this reason that the Board of Health had interdicted its use except for chemical and manufacturing purposes. The brewers were allowed to use it, as during the process of making beer it was subjected to a high degree of temperature, which acted as a disinfectant.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of December 16, 1884.

The President, Dr. J. A. McCorkle, in the Chair; Dr. Z. T. Emery, Secretary.

Malarial Fever on Long Island.—The report of the Committee on Hygiene [see page 267] and Dr. Thayer's paper [see page 273] having been presented, Dr. A. N. Bell was invited to open the discussion. He said that the report had been to him of very great interest, because it was, in a measure, a continuation of a work with which he had something to do several years ago. That part of the report relating to the description of the soil had not, in his opinion, been sufficiently emphasized. It must have been observed by every one present who had traveled on the island that the surface of the ground was peculiar. We had a multitude of what might be called "punch-bowls," with "hard-pan" bottoms, just beneath the surface, and in no part of the island was that peculiar formation more characteristic than from New Utrecht to Fort Hamilton; in that direction this water-tight subsoil layer, varying in depth from a few inches to six feet below the surface, prevailed. He had gone over the ground with the commissioners twelve years ago with a view to draining it, and made special note of the deep cuts which had to be made between the ponds. These ponds frequently had no outlets, and were nothing less than stagnant pools of water, and, as Dr. Thayer had observed, the impervious clay cropped out to within a few feet of the surface. Wherever these peculiar formations existed, malarial fevers abounded. Some of the ponds in the portion of the island referred to were drained by interception ditches half way down their sides; and from the bottom of these ditches wells sunk below the bottoms of the ponds. The hard-pan bottoms then being broken up, the ponds were converted into meadows. Malarial fever was on Long Island, one might say, almost perennial—it lasted all the year round. He believed the island could be thoroughly drained. There were some parts of it where there was natural drainage, and where there was nothing to be done—where there was no fever. We had an example of what could be done in other places by that which had been done on Bay Ridge. He hoped the practical outcome of these papers would be to push along the work of drainage, and insisted that it should be done. While the paper was being read he had thought of some exceptions to the views expressed in a portion of it (Dr. Thayer's). Intermittent fevers exist in some places where we did not have this peculiar clay formation, such places, for example, as the Palisades on the New Jersey shore of the North River, with underlying rocky formations, but virtually due to the same cause—the emanations from decaying vegetable matter and stagnant water in the crevices of the rocks. Another point: It did not always appear to be necessary to malarial fever to have stagnant water and vegetable decay in combination. He had traveled over sandy soil where there did not seem to be a vestige of vegetation of any kind, and yet this malarial fever broke out in persons residing or spending any time there. He also remarked upon certain analogous conditions of malarial and typhoid fevers, and referred to two important recent papers on the subject, one by Dr. Pinckney Thompson, of Kentucky, and another by the late Dr. Robert J. Farquharson, of Iowa. They both held that typhoid fever frequently originated from vegetable decay. It was remarkable that, so far as aërial emanations were concerned from animal and vegetable putrefaction, they possessed identical properties. We were all disposed to believe that *germs* had something to do with the causation of these diseases, but he was satisfied that, however much living germs might have to do with this matter, the conditions in which these germs delighted were conditions of putrefaction, and that the gases of putrefaction also had much to do with the production of disease independently of germs. But Dr. Smart, of the United States army, an excellent observer, had pretty much come to the conclusion that the water we drank had more to do with malarial diseases than the air we breathed. The speaker had not verified this observation, but he could very easily see that it might be the case with water originating in malarious regions. We all knew that moisture took up the poisonous particles in the air, and that they were conveyed by that vehicle. We knew that malaria prevailed chiefly along the coasts, and that it could not cross wide rivers, or extend far out over the water. We knew it was not safe for people to remain along or near the coast in malarial districts, or sleep there. They were apt to get malarial fever. Thus we saw that the poison was easily absorbed by the water, and hence the water might itself be poisonous.

Dr. Thayer stated that the committee referred to the emanations from the soil—whatever they might be—and did not assume that there were any germs. As to the matter of malarial fever being produced by drinking impure water, he remembered reading of an instance where some eighteen or twenty people had intermittent fever at one time, and it was shown that they had depended for water upon a certain spring which was traced to impure sources. The use of it was stopped and the fever subsided. This was undoubtedly the cause of the trouble. He was perfectly well aware of the fact that malarial fever existed where there was no appearance of vegetable decomposition; but, as a rule, where the soil was sandy and gravelly, and well drained, it was absent.

Dr. Raymond said that during the last summer some fifty-five ponds in Brooklyn had been filled up at an expense of $25,000, and, so far as his observation went, there remained but six more to be filled up, and this, in all probability, would be done before the winter was over. It would be interesting to know what effect the filling up of these ponds would have upon the prevalence of intermittent fever in those localities.

Dr. Walker said that several years ago there was in the society a Committee of Public Instruction. He thought this subject was one upon which the public should be enlightened by the society, and he therefore moved that the report of this committee be referred to the Council, who should prepare a summary of the same, to be given to the people for the use of the public at large.

The resolution was not seconded.

Dr. Chase said that, inasmuch as the president of the Board of Health was present, he would like to inquire whether the source of the supply of water of this city came from a decidedly malarial district, and whether he had any reason to believe that it brought malaria to the city.

Dr. Raymond had no information on those points.

Dr. P. H. Kretzschmar said that he noticed that the professional gentlemen in New Lots had not responded to the requests of the committee. Of course it was interesting to hear reports from different portions of the island, and he thought it was especially important to the members of this society to hear reports from localities near Brooklyn. He asked, if any gentlemen were present from the outlying wards, that they would address the meeting upon the condition of those wards and neighboring localities in this respect. If no one else was prepared to do so, he would like to make a few remarks relative to his experience in the town of New Lots. Two weeks before, the death-rate of New Lots was the second highest among towns in the State of New York. He was convinced that a great many of said deaths were caused directly and individually by malaria and its unfavorable influences; and he thought there existed to-day in the twenty-fifth ward, in East New York proper, in Bowronville, and in the regions near to Canarsie, malaria to a greater extent than anywhere else on Long Island. Of course, so far as the twenty-fifth ward was concerned, it should be remembered that there had been considerable building, and that streets and sewers had been constructed, and this was one of the wards where ponds could be found if they were to be found anywhere in Brooklyn. In East New York he had, within the last three years, observed some interesting cases of malarial fever of the severest form. He had been very much struck with the remarks made by Dr. Bell about the close connection between malarial and typho-malarial fevers. He referred to four cases of fever which he had considered typho-malarial fever, until recently, which occurred in East New York, in all four of which the patients died. They appeared to be at the onset of the disease well-developed cases of remittent fever. In none of these cases were there any decided enteric symptoms, and there was no eruption, or any enlargement of the spleen at the beginning. Still later on in the course of the disease diarrhœal symptoms appeared, and yet there never were any well-developed typhoid symptoms. The patients became somewhat delirious. He had a post-mortem made in two of these cases. Dr. Andrews, the health physician, attended one of these two patients until two days before the death, when the speaker was called in. There was some doubt as to whether or not an injury had something to do with the case. There was found ulceration of Peyer's patches, indicative of typhoid fever. Yet there was an absence during life of all symptoms of typhoid fever. A year before, there was another post-mortem in another case (that of the wife of a patient, who also died with malaria), and the same evidences of typhoid fever were found, although there had been an absence of symptoms pointing that way during life.

One word about the treatment of malarial fever in children. Some of us had had unpleasant experience in the administration of quinine to these little patients. He had, within the last five or six years, been in the habit of giving quinine to children *externally* by means of inunction, and he had found it to be the most satisfactory way of giving the remedy to children, say up to five years of age. The formula generally used was one part quinine, one half part chloroform, eight parts fat, or Squibb's oleate of quinine. He had had the most uniformly pleasant results. Dr. Jacobi had informed him that some French writer had written an article on the examination of the urine after the external administration of quinine, and had found evidences of quinine in the urine thus examined. A member of the society had informed the speaker that cinchonism had occurred in his practice after three days' use of quinine administered in this manner. If quinine could be found in the urine, and cinchonism followed inunction of quinine, there could be hardly a doubt that quinine was absorbed through the integument. Usually no unpleasant results followed. He thought, therefore, that it was worth while for gentlemen to try this method of administering quinine. Of course it was unnecessary to say what the advantages were. If there was no other advantage than that of getting the quinine into the patient's system and allowing the stomach to perform its proper function of digesting food, the advantage was great.

Dr. Thayer said, in regard to Dr. Kretzschmar's criticism, that the points referred to by him would be covered by Dr. Segur's paper—i. e., everything relating to Brooklyn and its vicinity. He had used quinine externally with admirable results.

Meeting of January 20, 1885.

The President, Dr. J. A. McCorkle, in the Chair;
Dr. Z. T. Emery, Secretary.

Electrolysis as a Cure for Uterine Fibroids.—Dr. J. N. Freeman read a paper with this title. [See p. 262.]

Dr. A. J. C. Skene thought that the paper was one of interest. Anything that promised to be of value in the management of fibroids was worthy of all attention, because such tumors were common, and some of them that he had met with had been difficult to manage. At the same time he might say that, of all the neoplasms of the sexual organs, the fibroid was one of the most harmless to life. With regard to the method of treatment advocated in the paper, he begged leave to differ from the statements made by the author, and he could, perhaps, show why he did so. First, the method was not a new one, as would be seen presently. Referring back to the use of electrolysis in the management of cysts of the ovary—say about fourteen to sixteen years ago—Dr. Semeleder reported twenty cases of ovarian cysts treated by electrolysis, the majority of which were cured or improved. He came to New York, and was invited to practice electrolysis in the Woman's Hospital, and he there met with failure. Dr. Skene did not remember any of his cases that were cured. One patient died, he believed, and the success of electrolysis in that direction was not satisfactory. About the same time Dr. Ephraim Cutter, of Cambridge, Mass., reported fifty cases treated by electrolysis—the majority cured or improved. These fifty cases were published in the "American Journal of Obstetrics," edited by Dr. Mundé. Now, that Dr. Mundé should tell Dr. Freeman that he had never heard of the successful treatment of fibroids by electrolysis was peculiar. One thing was certain, either he had forgotten, or he did not read his own journal. At the time these cases were reported Dr. Thomas visited Dr. Cutter, saw him treat a number of cases, came back to New York with the apparatus and full directions as given by Dr. Cutter, and began a series of observations in his own practice, chiefly in the Woman's Hospital, the speaker thought, but without much success. He failed to get the results that Cutter did. Scattered through the literature of gynæcology about that time there were many occasional cases reported. The speaker also caught the idea, and made a few observations about the same time. Two of them were recorded in the history of the College Hospital. He thought, upon consideration, that three of them would be found on the records there. Two of them were most excellent cases for this kind of treatment. The tumors were interstitial, and extended down into the cervix and low down into the vagina, so that he could practice electrolysis with the greatest facility, and without the necessity of employing an anæsthetic. In the first applications in each case he employed ether; after that, as he found it was not specially required, he did not employ it. So long as he stuck to electrolysis, the tumors were not modified. When he pushed it beyond the mere decomposition of the fluids in the tumors and got the electro-cautery effect, suppuration and diminution of the tumor were produced. In both cases the tumors became softer, but did not diminish in size especially. In another case, a hospital one, he practiced electrolysis by passing needles through the abdominal walls. The tumor extended above the umbilicus. He repeated the treatment at least seven times in all, and he thought, by stretching his imagination a little, that the tumor was reduced one sixth in two years. The tumor did not threaten the patient's life or render her useless, and she declined further treatment. Another case occurred in his private practice, with similar results; so that his own observations would not appear to favor the use of electrolysis. He had seen other cases treated by other gentlemen with somewhat similar results. He might go back, if not out of order, and refer again to electrolysis in the treatment of ovarian cysts. About the same time that Semeleder's cases were reported, Dr. Skene was invited by Dr. Hesse to see a case of cyst in the abdomen in his practice. There was no doubt about the diagnosis, so far as regarded the presence of the cyst. Dr. Hesse practiced electrolysis, and entirely removed it. This case was published in the "American Journal of Obstetrics" in 1877. From the history of it, and the general appearance and physical signs, he was inclined to think it was a cyst of the broad ligament. After the treatment by electrolysis and the complete cure, he was even more convinced of that. About the same time he had a patient with a very large ovarian monocyst. She absolutely refused to be operated on. She was then told of this new method, which she accepted. She was warned that it might be dangerous, that he knew but little about it. She accepted his little experience. He therefore practiced electrolysis, with the result of getting up an inflammation of the ovarian cyst, which extended to the peritonæum, and the patient died at the end of a week.

Such was his own personal experience in the use of electrolysis. He was inclined to think that this was the experience of many others also, because there was a great deal of enthusiasm on this subject a few years ago. Many tried it, but he had heard nothing about it of late years. Had the gentlemen who practiced this treatment of fibroids met with the promised success, they would have continued in well doing, and the profession would, no doubt, have heard of their good deeds. In place of this, there had been a marked silence on the subject till now. Then, again, it was exceedingly difficult to estimate the benefit derived from any form of treatment of fibroids. He noticed that several of Dr. Freeman's patients were in the neighborhood of forty years of age. Now, it was a notorious fact that fibroids about that time often disappeared without treatment of any kind; and often even earlier than that they appeared to be arrested in their growth. There were so many natural means of cure that in estimating the benefit of treatment we must remember that nature sometimes accomplished that which art could not do. If the patient lived until the menopause, or final involution of the uterus took place, the fibroid would disappear also. Again, a little inflammatory action in the mass itself, or in the uterus, might cut off the circulation and the tumor would disappear. There were, indeed, many ways in which these tumors became arrested in their growth, so that great care must be taken in estimating the benefit of any method of treatment. While he fully appreciated these histories as given by Dr. Freeman, it must be remembered that three swallows did not make a full meal, neither did three cases fully prove the value of this treatment. A number of cases were necessary in order to pass upon its value. We therefore had to accept these cases as evidence that this mode of treatment was still under observation. It might be successful in the future, but was at present only on trial. One thing he ought to say in regard to this mode of treatment, and that was—it was not so dangerous as he supposed it would be. He remembered that when he first passed those needles through the abdominal walls and drove them into the hard mass, he was very much afraid of the consequences. He supposed he was the most unhappy man in Brooklyn one day when the patient, after coming out from the ether, had a terrific chill. He imagined it was the beginning of the dreaded peritonitis, but it was only a nervous chill—the temperature did not go up. After that the patient came to the hospital, say today, was treated to-morrow, and then the next day went home about her business. Cutter's instruments were larger than needles. They looked like little daggers; had handles and V-shaped heads. He used to take them by the handles and thrust them into the tumor with great force, and yet only one of the fifty patients died. Very few of them had any peritoneal trouble. That was very much in favor of the method, and deserved particular attention.

Now, when we came to compare electrolysis with ergot and laparotomy in the management of these cases, it could only be maintained that it was one of the means of treating fibroids, and one that was not effectual in all cases. That we did have most excellent results from ergot we all knew. When the tumor was intra-uterine, surrounded by strong muscular walls, it would respond to ergot. If the uterus would respond to ergot, we should accomplish one of two things—either the mass would be entirely expelled, or could be removed by traction and enucleation, or else, by the circulation being cut off, it would become atrophied. When the tumors were interstitial, ergot acted less effectually; when they were subperitoneal, little if anything could be done, and the result was not by any means satisfactory. These were the cases where we had to resort to laparotomy. When we remembered how many of these cases there were, and how many patients got along comfortably for years, the tumor being stationary, and how many of them got well without treatment, the field for the use of electrolysis was limited as compared with other means.

Dr. Freeman replied that Dr. Mundé had mentioned Cutter's cases, but had said they were not satisfactory. Dr. Cutter's operation was essentially different from the author's. Dr. Skene had accurately described his method—with a V-shaped dagger—and he generally produced suppuration. This Dr. Freeman had tried to avoid. Dr. Cutter's cases had not been published, and Dr. Freeman had not heard of them when he made his first experiments, and only learned the results when they were published the next year.

Dr. Freeman had treated two of his cases in St. John's Hospital, and had succeeded in preventing suppuration in every case except after one treatment, and in that it was limited to the abdominal wall and did not affect the tumor itself nor the peritonæum. In all these cases there was a gradual softening and absorption of the substance of the tumors.

Dr. Skene said that Dr. Freeman must have misunderstood his remarks. There was no essential difference in the methods practiced by Dr. Cutter, Dr. Freeman, and himself.

NEW YORK CLINICAL SOCIETY.

Meeting of January 23, 1885.

Dr. L. Emmett Holt, Chairman; Dr. W. Duncan McKim, Secretary.

Forward Dislocation of the Head of the Radius.—Dr. J. H. Emerson presented a patient, a boy of seven years, with an old forward dislocation of the head of the radius upon the external condyle of the humerus. Motion in the joint was remarkably free, which fact was to be explained by the marked atrophy of the external condyle. Nothing was known in the way of history, except that the patient had fallen upon his elbow, three years previously, and was then supposed to have sustained only a bruise.

Cheiloplasty.—Dr. Robert Abbe presented a patient, aged fifty, on whose face he had performed several plastic operations, following removal of the entire lower lip, four months before, for epithelioma, which extended outside the commissure of the lips on both sides. Photographs of different stages were also shown.

At the first operation a large V-incision was made, including the entire breadth of the disease, and pointing far below the chin. Then a longitudinal incision was made through each cheek, well back, and an inverted V-piece removed from each side, above the cut, to prevent pouching when the lower flaps were dissected up and slid forward.

Ten days later, a slough had taken place, at the median line of the lower lip. After some time, a second operation was done to correct this gap of more than an inch. Its edges were pared, and a long horizontal cut was made, an inch and a half below the first, extending back to the parotid gland, and then curving upward to the level of Stenson's duct. The flaps were undermined, and again slid forward to meet. Union was good, but a fistula remained under the middle harelip-pin, which finally had to be closed by a horizontal rectangular flap from the front of the chin, that was swung into a vertical position to fill a gap made by vertical cuts, including the fistula and cicatrix.

The latter operation was done under hypodermics of cocaine, which worked most excellently. The ultimate result was very satisfactory.

Ridge-like Formations in the Bladder.—Dr. L. B. Bangs presented the bladder and kidneys of a patient with the following history: At first, the only symptom was frequent and painful micturition, the pain being especially in the head of the penis. Neither stricture nor stone could be detected. After a few months, the searcher indicated the presence of some obstacle at the base of the bladder, but its nature could not be determined. The urine always contained pus, but no casts were ever found. The patient then disappeared. Four years later, he presented himself again with his condition much improved, urinating about every four hours only. A few weeks later, he died with uræmic symptoms. He had had an early gonorrhœa.

Post-mortem examination showed a ridge extending between the vesical orifices of the two ureters, with a second ridge coming off from the middle of the first and prolonged into the prostatic urethra. Both ureters were dilated; and the kidneys were the seat of multiple abscesses. The case was evidently one of obstruction at the internal meatus.

Injury of the Head.—Dr. A. A. Smith narrated the following case: A child, aged six years, fell over a balustrade to a floor, twenty-six feet beneath, striking upon the forehead. The forehead was much swollen, the left eye was closed from swelling of the lids, and there was a tender spot on one of the legs. The pulse was 88, regular; the temperature was normal; there was no vomiting. The child could speak when the tender leg was touched. The next morning he seemed bright, but afterward he refused to talk, and then had a convulsion—fourteen hours after the accident. After that he vomited, and immediately fell into a quiet sleep. Another convulsion took place, but it was slight. It was followed by vomiting. For three nights there was slight delirium, but the patient then made a good recovery.

Dr. J. W. Wright inquired as to when the child had taken food before the accident. He thought that the convulsions were due to the presence of food which the stomach was unable to digest during the shock of concussion. Under such circumstances he would give an emetic.

Dr. Smith thought that there were three plans of treatment for such cases—an emetic, a cathartic with an opiate, and bromide of potassium. In this case he used the bromide.

Vesical Calculus.—Dr. Wright presented the detritus of a stone removed from the bladder, after the injection of ʒj of a four-per-cent. solution of cocaine into the urethra. No pain was experienced, but slight discomfort from the stretching of the bladder by water.

Perforation of the Bladder.—Dr. Wright presented a specimen of perforated bladder, with the following history of the patient: A laborer, aged twenty-six, admitted to Bellevue Hospital November 26, 1884. Had suffered from painful micturition since childhood. For the previous three months he had micturated about every half-hour. The urine was frequently bloody. He had never had gonorrhœa. Eight months ago he was treated for stricture, a steel sound being passed three times a week for eight weeks. November 25th, Dr. Wright detected a stone with a small-sized Thompson's searcher. At this time the urine contained blood, pus-cells, and much mucus, and was alkaline, of an ammoniacal odor, and of the specific gravity of 1·020. There were no casts.

November 29th, after three days' rest in bed, with the use of diluents, etc., the patient was much better. He was etherized, and three ounces of warm water were injected into the bladder. A small Thompson's searcher was passed into the bladder, and after about five minutes the stone was felt, but its size and quality could not be determined, from the obstinate contraction of the bladder. A larger instrument could not be passed, on account of a stricture and the presence of false passages near the membranous portion of the urethra.

December 1st, peritonitis was recognized. On the 8th the patient was deemed convalescent, but a return of the peritonitis took place on the 11th, and on the 13th death.

Autopsy, sixteen hours after death.—General peritonitis was found; also acute left parenchymatous nephritis. Between the anterior wall of the bladder and the pubic bones there was an abscess, with well-defined walls, containing three or four ounces of pus, but having no communication with the peritonæum. The bladder was very small, its capacity being not more than three ounces, and its walls were much contracted and thickened, and in a state of chronic inflammation. In the right lower segment, somewhat posterior to the lateral median line, and about one inch from the vesical opening of the urethra, was found a perforation large enough to admit the end of the index-finger, which communicated with the cavity of the abscess. Its margins were smooth and thoroughly cicatrized, with every appearance of having existed for several months.

The bladder contained an oxalate-of-lime stone, one inch in diameter, and weighing 276 grains.

Dr. Wright raised the question whether this perforation was due to the use of instruments, or to the ulceration caused by the stone itself.

Dr. Bangs, after examination of the specimen, was convinced that the perforation had been caused by ulceration due to the presence of the stone.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of February 3, 1885.

Vacuolation of the Brain.—Dr. J. C. Shaw read a paper on this subject and showed a specimen.

Dr. Peters stated that very interesting cases were to be found on record in the "Transactions of the Pathological Society of London."

Dr. Parsons had never seen vacuoles of the brain of the size of those shown in the specimen. He had seen smaller ones. His impression was in accordance with the views expressed in the paper with regard to the origin of the enlargement of these perivascular spaces.

Dr. Weber thought that the vacuoles in this brain might be connected with septic fever, which certainly must have taken place during the man's life. He was inclined to think that there might have been infarctions in that brain which might have something to do with such immense vacuoles. He wished to know if Dr. Shaw had examined the brain soon after death.

Dr. Shaw said that he had done so the next day. He had cut into the brain afterward and found these cavities. There was nothing on the outer surface of the brain to indicate them.

Dr. Weber asked if Dr. Shaw really believed the larger-sized ones to be real vacuoles.

Dr. Shaw said that he really did.

Dr. Weber then asked if vacuoles as large as these had ever before been seen by Dr. Shaw or by any one.

Dr. Shaw stated that no one had seen them so large. He had not, at all events. The largest he had ever seen were of the size of a small nut.

Dr. Weber stated that the largest he had ever seen were as large as a pea, drawn out. They were of the size of the smaller ones surrounding the large ones in the brain that had been shown. In this respect he considered the specimen unique.

Dr. Shaw said that the reason he had presented it was because it was an extraordinary specimen. A great many cases were reported where there were no vacuoles. This man had certainly been subject to septic trouble. Dr. Shaw asked if those cyst cavities were not due to hæmorrhage.

Dr. Weber thought that the man probably had septic pleurisy. There might have been emboli carried into the brain; certainly there was septic matter coursing through the arteries. In the cases he had known of there had been no structural disease going on.

It had struck Dr. Shaw that possibly thrombosis might have taken place in some of the small vacuoles, and that a large number of them might have been blocked up in that manner. The explanation that the perivascular spaces had been dilated was not a very good explanation for cavities of such large size.

Dr. Birdsall was reminded of a spinal cord that he had been very much interested in while working with Professor Meinert in Vienna. It was hardened in the usual way, and showed nothing particular, but, on making sections of it, it was found to be a perfect honeycomb, so completely had certain portions disappeared, and other portions shrunk together. He did not know whether any one present remembered the appearance of a sawn butternut, but the transverse section of this cord looked very much like one of these. It was difficult, he admitted, to account for the large cavities in Dr. Shaw's specimen. It seemed to him, though, that the œdema of the brain that was to be found in cases of chronic alcoholism might produce such a condition, provided the cavities were due to a shrinking away of the tissue, as Professor Meinert had suspected in the case he had alluded to.

Dr. Flint thought that the method of preparation of the brain was decidedly wrong. He wanted to know if Dr. Shaw had said that the brain enveloped in its membranes had been placed in alcohol.

Dr. Shaw stated that it was placed in alcohol, but not with its membranes.

Dr. Flint thought that nevertheless a number of changes took place afterward. There might, perhaps, be little cavities formed. He confessed, however, that he had never seen cavities as large as these. A great many that he had seen had arisen from the faulty method of putting the brain in the alcohol. The brain became hardened. He for one was of the opinion that not all the cavities in this brain had existed during the lifetime of the patient, but that some of them had formed after the brain had been removed from the body; and, consequently, they lost their pathological significance.

Epilepsy as a Cause of Death.—Dr. W. M. Leszynsky read a paper with this title. [It will be published in full hereafter.]

Dr. Parsons said his experience had been very much in accordance with the author's as to the cause of death of a large number of patients who were sufferers from epilepsy. Very soon after he became connected with an institution in which there were many epileptics, he was struck with the fact that they did die in some way in consequence of an epileptic seizure, contrary to the statements in treatises. To such an extent was this true that it seemed to him the rule that epileptics died as the result of the seizure. In a few cases they died from accident, as from suffocation, or some other injury received during the epileptic seizure. In some cases they died from shock. Most of them, however, died in the *status epilepticus*, after they had had attacks running from two to three days. Autopsies were made in the great majority of these cases. His impression was that in almost all of them the condition of the brain was one of intense congestion, either with or without effusion into the ventricles. He had been very much surprised at the difference of experience between himself and eminent men who had written on the subject. It hardly seemed possible to him that the results could differ very much from the experience in New York institutions.

Dr. Birdsall thought that the cases that had been presented in the paper had been complicated with other forms of disease, and that this introduced a factor that made it difficult to apply them to ordinary epilepsy. In the first case it was not certain that death was caused by epilepsy, at least as stated. The patient was found dead, and with no record of a convulsive attack immediately previous. In one case, for example, we had indications of atrophic changes, and in several cases there was a possibility of epileptic attacks being the result of gross lesions; and it seemed to him that these things should be borne in mind.

Dr. Leszynsky said that Dr. Parsons had spoken of a large majority of cases where the brain was found to be intensely congested. So it was in these cases where the autopsy had been made, but there were cases where the brain was quite anæmic. In the doubtful case which Dr. Birdsall referred to, where the patient was found dead, it was to be presumed that she died from epilepsy, for she was always in excellent health. She frequently had convulsions and fell upon the floor. It was to be presumed, consequently, that she died from epilepsy. In the other doubtful case, where the autopsy was made, the patient had always been an epileptic. Gross lesions were found frequently, but he did not think that anything had yet been discovered which would account for the condition of epilepsy. With regard to the treatment, he had confined himself exclusively to the *status epilepticus*, and not to the condition of epilepsy; still, he would state that he not only used the bromides, but conium. He had also used chloral, belladonna, and ergot, and, together with bromides, every patient received tonic treatment. A great many were ordered cod-liver oil with iron. Some were given arsenic. A number had been paralyzed by the bromides, and they had had to be given up.

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of January 17, 1885.

(Continued from page 231.)

Diabetes.—In the continuation of the debate on this subject, Dr. John L. Bailey related a case that had come under his care three years after an injury to one of the upper limbs that produced partial paralysis. The patient was an elderly lady. The speaker thought it probable that the glycosuria was due to the injury, although there was no direct communication between the nerves injured and the nervous mechanism of the liver, so that it closely resembled the experimental diabetes of Schiff, produced by division of the sciatic nerve. Long-continued nervous irritation might have weakened the nervous system, and contributed in a measure to the production of the disease.

Dr. Thomas E. Satterthwaite remarked that we should proceed with caution in putting a patient upon the use of anti-diabetic diet, for even persons of the greatest self-control would sometimes break through the rules laid down, and gorge themselves with sugar or starchy food. We should forbid sugar first, and then, as the patient had trained himself to subdue the desire for it, proscribe the starchy foods one by one. Neglect of these precautions would often cause failure at the very outset. When sugar had been constantly absent from the urine for two or three months, a gradual return might be made to the ordinary diet. The speaker had found, as a rule, that diabetics did not bear the bran and gluten breads well; some, indeed, refused them absolutely. According to his experience, some of the diabetic bread in the market was unpalatable, but it was certainly possible for patients to live on a purely nitrogenous regimen, as was abundantly proved by the fact that the Esquimaux and other residents of high latitudes did so.

Symptomatic treatment was next in order after restricting the diet, and the first indications were usually such as called for sedatives to relieve the neuralgic and muscular pains. Besides bromides and opiates, valerian and strychnine were the principal remedies in use. There appeared to be little danger of the patient's contracting the opium habit if codeine was selected, nor was the usual constipation of the disease greatly aggravated, as the doses required were not large. For palpitation, digitalis and alcoholic and diffusible stimulants were often advantageously employed. In one instance, he had known a tincture of the *Cereus Bonplandii*, in ten-minim doses, prove effectual in controlling palpitation that was annoying at night. One dose at bedtime secured the desired result. Of the forty cases that he had collected as occurring in New York, from two to five per cent. seemed to have been cured, and the same proportion had successfully resisted the disease, but most of the remainder were known to have gone on from bad to worse. There was a fair possibility, however, that the percentage of cure or arrest might at some time be found to be better than appeared from these statistics. Many of the patients had passed out of observation, and therefore no deductions could be drawn from them. One case in the second category was noteworthy. The patient had come to him three years before, showing marked emaciation and obvious symptoms of the disease. He was syphilitic. After an attack of cerebral syphilis he was put upon a six-months' course, and the diabetic symptoms were reduced to a minimum; but, even now, although he had gained flesh and color, and was in the full swing of an active life, he felt the need of two bottles of claret with his dinner. Ergotin was used in the second case in which the disease was arrested, and in combination with codeine and sulphide of calcium. One grain of ergotin was given three times a day, and the codeine in ordinary and moderate doses.

One point ought to be insisted upon by the practitioner on assuming the care of a case, and that was that the urine should be examined every week, to determine the quantity of sugar, so that the results of the treatment might be noted; and at the same time a careful examination for casts should be made, since one of the greatest dangers in this disease was that, with the cessation of the excretion of sugar and the apparently favorable turn of affairs, the more insidious and dangerous nephritic complications might supervene.

Dr. Andrew H. Smith thought that the theory of the hepatic origin of the disease was not sufficient to account for all the cases; for instance, those induced by cerebral traumatism, tumor, or mental excitement, as in the case of the duellist in whom diabetes was established after an encounter where, having delivered his shot, he was obliged to wait for some seconds for that of his adversary, whose pistol had missed fire. Those cases where it had followed upon the loss of property, and other such severe mental strains, might be included in this category. It seemed more probable that the principal seat of trouble was in the nervous system, and more particularly in the brain itself. The liver was probably implicated, but he believed that there was a primary lesion back of it. He could not overlook the experiments of Bernard, who had found that, on puncturing the floor of the fourth ventricle, sugar appeared in the urine without any increase in the amount of the secretion, but that, if the puncture was made a little lower, the sugar again appeared—this time, however, with an increase of the quantity of the urine, while, when the puncture was made at a higher plane, the water was increased without the least trace of the appearance of sugar. The sympathetic system was probably the channel for the diseased impulses which were conveyed from the brain or the cord, for, if the cord was divided above the third cervical ganglion, no such result followed puncture of the floor of the ventricle, while, if the division was made below this ganglion, the usual consequences were noted. It seemed probable, therefore, that the track of the diabetic impulse switched off into the sympathetic system in the region of the third cervical ganglion, and through it to the liver. The dilated capillaries of the liver also favored this view, as the nerves that preserved the arterial tone were known to have their origin in the floor of the fourth ventricle. The speaker had found a variety of lesions in the liver, and considered them, as well as those of the other organs, probably due to the derangement of the circulation of the blood. The enlarged kidney was unquestionably due to hyperæmia, probably from the irritation of the sugar. The low temperature in this condition usually bore a direct relation to the amount of sugar eliminated, and often fell two, three, or more degrees below what was normal.

The extreme fatality of erysipelas occurring in the course of this disease had not been remarked upon. Facial erysipelas under these circumstances was nearly always fatal. He thought that iodoform fell into the same class as opium and codeine in the treatment of the disease, as its effect was directed toward the nervous system. Several years before he had treated a patient on the theory that the difficulty depended on some local irritation of the olivary bodies or about the medulla, and had applied a permanent issue at the root of the neck. It seemed to have a decided effect in lessening the amount of sugar passed, and the patient improved so much without dieting that he was enabled to resume his duties as a chaplain in the army. He died subsequently, however, of diabetes. The speaker thought that ergot might be of some service in controlling the vasomotor system.

(*To be concluded.*)

Miscellany.

The Cæsarean Operation among the Aborigines of Central Africa.—The "Edinburgh Medical Journal" publishes a description of an operation that was witnessed by a traveler in Central Africa. The operator (who was one of the tribe) made a bold incision through the abdominal wall, extending from the umbilicus to the pubes. This partly opened the uterine cavity. The hæmorrhage was arrested by the application of a hot iron, then the wound in the uterus was enlarged and its edges were held open by an assistant while the operator extracted the fœtus and placenta. The wound was closed with rude acupressure pins made of iron, shreds of bark being used for the figure-of-eight sutures. Over the whole was placed a dressing of herbs, which the operator had previously reduced to a pulp by chewing them. Union was perfect on the eleventh day.

The New York Clinical Society.—At the annual meeting, held February 27th, Dr. A. A. Smith was elected president, Dr. E. G. Janeway vice-president, and Dr. F. H. Markoe secretary and treasurer.

The West Virginia State Board of Health.—Dr. L. D. Wilson, of Wheeling, has been appointed a member of the board, in place of Dr. James E. Reeves, resigned. As the board is now organized, Dr. C. T. Richardson, of Charleston, is president, and Dr. T. A. Harris, of Parkersburg, secretary.

The Central College of Physicians and Surgeons, of Indianapolis, held its annual commencement exercises at the Grand Opera House on Friday afternoon, February 27th. The degree in medicine was conferred upon nine gentlemen, and Professor R. French Stone delivered a most interesting and appropriate address.

Horsford's Acid Phosphate as a Preventive of Cholera.—Dr. Charles Gatchell, of Chicago, says: "As it is known that the cholera microbe does not flourish in acid solutions, it will be well to slightly acidulate the drinking-water. This may be done by adding to each glass of water half a teaspoonful of Horsford's Acid Phosphate. This will not only render the water of an acid reaction, but will also render boiled water more agreeable to the taste. It may be sweetened if desired. The Acid Phosphate, taken as recommended, will also tend to invigorate the system and correct debility, thus giving increased power of resistance to disease. It is the acid of the system, a product of the gastric functions, and hence will not create that disturbance liable to follow the use of mineral acids."

THERAPEUTICAL NOTES.

The Absorption of Atomized Liquids by the Skin.—Juhl ("Dtsch. Ztschr. f. klin. Med."; "Gaz. hebdom. de méd. et de chir."), states, as the result of a number of experiments made at the Munich clinic, (1) that the intact epidermis is readily permeable by watery and alcoholic liquids in a state of fine division, and (2) that it admits alcoholic more readily than aqueous liquids.

Lactate of Quinine.—Vigier ("Gaz. hebdom. de méd. et de chir.") recommends this preparation for use in hypodermic injections, because of its solubility and the fact that it forms a neutral solution. He prefers this combination:

Lactate of quinine	15 grains;
Glycerin	6 drachms;
Distilled water	20 "

About seventy-five minims of this solution should be injected three or four times a day.

Syncope from the Use of Cocaine.—Dujardin-Beaumetz (*Ibid.*) has observed several cases in which the hypodermic injection of weak solutions of cocaine was followed by syncope of brief duration. He attributes the occurrence to cerebral anæmia, and says that it never takes place if the patient is kept in the prone posture.

The Treatment of Ileus by Irrigation of the Stomach.—Cahn ("Berlin. klin. Wchnschr."; *Ibid.*) reports the successful results of this treatment in three cases of ileus observed at the Strassburg clinic. The method employed was that recommended by Kussmaul. To these successful cases another has recently been added by Senator.

Jacaranda Lancifoliata.—Mennell ("Brit. Med. Jour.") reports fourteen cases of venereal disease in which he used this drug with satisfactory results. Not only did he cure obstinate urethritis, but found it of decided benefit in two cases of secondary syphilis. For gonorrhœa, he advises the use of the tincture, in doses of fifteen minims, together with injections of ten minims of the tincture to an ounce of water.

Phosphide of Zinc in Dysmenorrhœa.—Decoux ("Union méd.") writes in praise of this drug, which he has used in many cases of dysmenorrhœa and amenorrhœa, with satisfactory results. He gives a little less than a third of a grain daily—two pills of about a twelfth of a grain each before breakfast, and two more at night. He admits that this drug possesses no distinctive properties other than those of pure phosphorus, but thinks that it is safer and more manageable.

Chronic Inflammation of the Eustachian Tube and Tympanum.—Gampietro ("Arch. di Otojat."; "Gazz. degli Ospit.") recommends the following solution, which can be applied by means of a suitable syringe:

Tannic acid	15 grains;
Salicylate of sodium	1 drachm;
Distilled water	1 quart.

For chronic catarrh of the external ear he recommends this preparation:

Laudanum	3 minims;
Sulphate of zinc	4 grains;
Rose-water	6 drachms.

To be instilled three times a day.

Quinoline in Diphtheria.—Seiffert ("Berlin. klin. Wchnschr."; "Union méd.") has used tartrate of quinoline somewhat extensively in diphtheria. He employs topical applications of a five-per-cent. solution, and states that its use is followed by a fall in the temperature and an improvement of the local and general condition.

An Ointment for Eczema of the Eyelids.—Galezowski ("Union méd.") proposes the following:

Oil of cade	4 minims;
Red precipitate	1⅔ grain;
Camphor	4 grains;
Vaseline	2½ drachms.

Apply to the eczematous patches on the nose and lids of scrofulous children.

An Antiseptic Mouth-Wash.—Magitot (*Ibid.*) suggests the following:

Borate of sodium	15 grains;
Thymol	8 "
Distilled water	1 pint.

The mouth is to be washed several times daily, to correct fœtor of the breath. The solution also acts as a local anæsthetic in cases of decayed teeth.

An Application for Elytritis.—Sigmund (*Ibid.*) uses this glycerite:

Iodine	1¼ grain;
Iodide of potassium	7 to 14 grains;
Glycerin	5 drachms.

Tampons saturated with the solution are to be introduced into the vagina.

Original Communications.

INJURIES TO THE PELVIC FLOOR FROM PARTURITION AND OTHER CAUSES.*

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In order to comprehend fully the nature of the injuries to the pelvic floor and their varied and important pathological relations, it is necessary to review briefly the anatomy and physiology of this structure.

The pelvic floor, which has also been known by the somewhat indefinite name of perinæum, comprises the tissues which together occupy the space between the bones of the pelvic outlet. It is composed of muscles, fascia, areolar and elastic tissue. The muscles, which are the chief element in the structure and perform its function, have their origin from the ischium, the pubes, and the coccyx. From these points they extend downward, inward, and backward to the median line, and are united to the terminal ends of the rectum and vagina and to each other from the opposite sides.

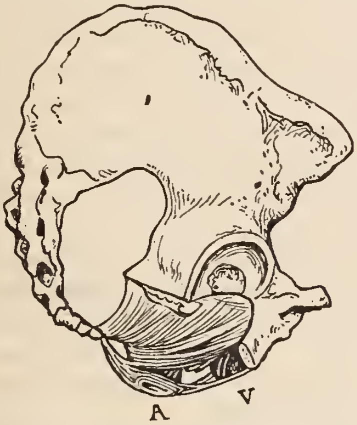

Fig. 1.—The Levator Ani, seen from without after removal of part of the hip bone. (After Luschka.) A, anal opening, with sphincter; V, vagina.

The levator ani muscle arises from the posterior surface of the os pubis, the pelvic fascia, and the spine of the ischium. It passes downward, backward, and inward, to be inserted at the following points: in the median line, the walls of the vagina and rectum, its fellow of the opposite side, and the end of the coccyx. Fig. 1 shows the position and attachment of this muscle.

The transversus perinæi muscle arises from the spine of the ischium and passes across to the median line, where it joins its fellow of the opposite side. This muscle fills up part of the space left uncovered by the levator ani. The coccygeus arises from the spine of the ischium and is inserted into the side of the lower part of the sacrum and side and front of the coccyx. It is understood, of course, that there are two of each of the three muscles thus far described, one on each side—although the two parts of the levator ani may be considered as one because they act as one muscle. The same may be said of the transversus perinæi muscle. The bulbo-cavernosus can be most easily traced by taking as its origin the space between the sphincter ani and the orifice of the vagina. From this point its two halves pass upward, one on each side of the vagina. The upper anterior end of each slip of muscle divides into three parts, which are inserted as follows: one into the lower surface of the corpus cavernosum of the clitoris, a second into the posterior portion of the bulb, and the third unites with its fellow of the opposite side in the mucous membrane of the vestibule; and all of them are, through the medium of tendon and fascia, connected to the pubic bones. If this muscle is traced from above downward to the center of the pelvic floor, it will be seen to have an origin and insertion like that of the anterior fibers of the levator ani; hence they may be considered as one muscle. This view is justifiable from the fact that they also contract together, having a similar function.

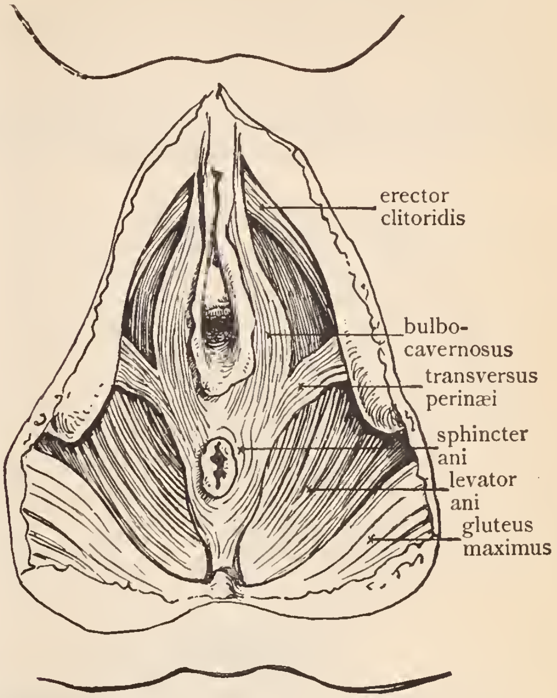

Fig. 2.—The muscles of the pelvic floor. (After Hart and Savage.

All of these muscles have one feature in common, and that is, the blending of their fibers from the opposite sides of the pelvic outlet, and their attachment to the terminal ends of the rectum and vagina.

The sphincter ani muscle, which has a function peculiarly its own, is closely united to all the other muscles of the pelvic floor by an interlacing of the muscular fibers and by tendinous and fascial attachments. The sphincter ani arises from the end of the coccyx; it surrounds the end of the rectum in conjunction with its circular fibers, while some of its deeper fibers are attached to the tissues in the median line between the rectum and vagina. The superficial fibers of this muscle are circular, and attached to the integument like all true sphincteric muscles.

Taking the muscles of the pelvic floor in the aggregate, they form one complete diaphragm of muscular tissue which fills the pelvic outlet. By this arrangement the rectum and vagina are held in position, and their terminal ends controlled in the performance of their function.

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* Read before the Medical Society of the County of Kings, September 16, 1884. With few exceptions, the illustrations to this article are from drawings by R. L. Dickinson, M. D.

The muscular attachment of the muscles and vagina is in part shown by the preceding Figures 1 and 2.

The normal elevation of the pelvic floor is illustrated by Fig. 3 (Foster).

This position of the pelvic floor and the relations of the rectum and vagina should be noted because they become changed in most of the injuries of this structure.

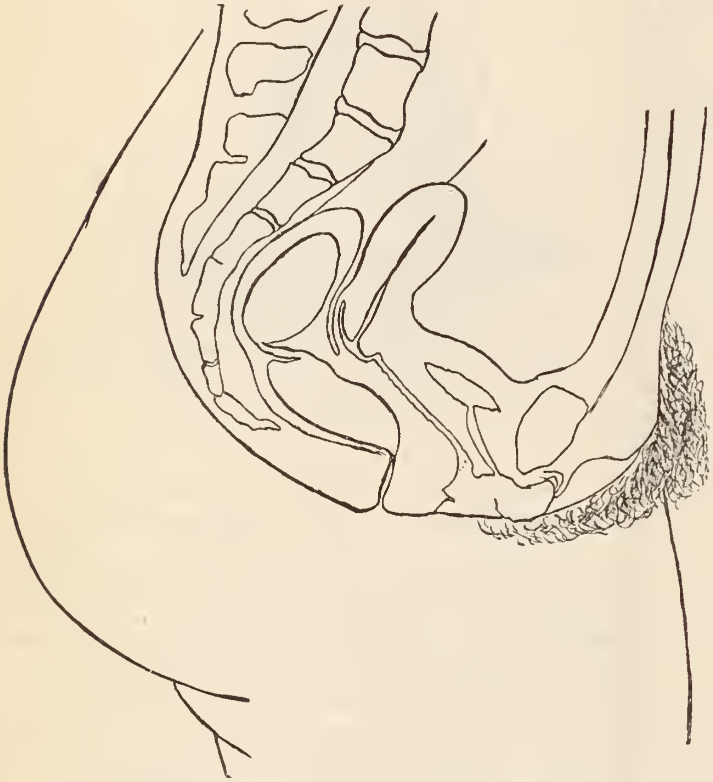

Fig. 3.—A sagittal section. (After Foster.)

The muscles of the pelvic floor are surrounded by the deep and superficial fascia, which in some parts become ligamentous in character; for example, the ischio-perineal ligament—that dense portion of the fascia which stretches from one side to the other through the space between the rectum and vagina. This fascial structure accompanying the muscles is characteristic of all muscular structures which have to afford continuous sustaining power, like the muscles of the back, of the neck, abdomen, and thigh.

Function.—These anatomical facts regarding the floor of the pelvis suggest that its functions are to sustain the rectum and vagina, and to aid in their functions. The arrangement of the muscles is such that they close by sphincteric action the terminal ends of the rectum and vagina, yet also permit the distension of their orifices during the acts of parturition and evacuation of the rectum. When pressure is made downward by any body in the rectum or vagina, the perineal muscles act to draw the orifices of these canals upward, and hence supply a resisting force to the downward pressure which effects dilatation of the vagina and rectum. This action of the muscles in resisting downward pressure is well demonstrated during parturition. When the child's head presses upon the floor of the pelvis, the muscles, by retraction, distend the sphincter ani to a great extent. The dilatation of the vagina is by a more passive giving way to the forces above, and yet the muscles exert a well-defined power in retracting that portion of the pelvic floor. This function of the muscles should be noted because it enters into the mechanism of most of the injuries to be discussed.

This brief statement regarding the function of the pelvic floor embodies the essential points in its chief offices. There remains something to be said regarding its relations to the pelvic organs.

Up to the present time the attention given to this subject by gynæcologists has been almost wholly confined to laceration of the so-called perineal body—an injury frequently seen, but not by any means the only one that occurs to these parts. This concentration of attention on one portion of the subject has given rise to great diversity of opinions regarding the function of the perinæum and its relations to the displacements of the pelvic organs, one party believing that the perineal body has much to do with sustaining the pelvic organs in position, the other holding that it has very little power in this respect. Without summing up at great length the arguments on both sides, the facts bearing on the practical side of the subject may be briefly stated.

In all injuries of the pelvic floor which impair its supporting function to any extent, prolapsus of the pelvic organs will follow in time, except in three conditions:

1. When the injury is compensated for by the muscles (which still maintain their attachment to the vagina and rectum) drawing the remaining portion of the pelvic floor upward, forward, and toward the pubes, thereby closing the vaginal orifice and supporting the pelvic organs.

2. Where by reason of some intra-pelvic inflammation the organs have become fixed by adhesions; and,

3. Where the subject is abundantly supplied with adipose tissue, and takes very little active exercise.

Excepting the circumstances here named, prolapsus of the pelvic organs invariably occurs after important injuries of the pelvic floor. The displacement does not follow the injury immediately, but, as a rule, comes on slowly. This conclusion has been arrived at from a large number of clinical observations, and it helps to definitely settle the question regarding the value of the pelvic floor as a means of support for the pelvic organs. From these facts one may obtain the key to the differences of opinion which have been held by gynæcologists regarding the functions of the pelvic floor. Those who believe that it plays a secondary part in maintaining the pelvic organs in position argue that there are anatomical structures which sustain the pelvic organs in place without aid from the pelvic floor, and, in proof of this, point to the fact that the removal of the pelvic floor is not followed by displacement of the pelvic organs. This is often seen in cases in which lacerations sufficient to largely impair the function of the pelvic floor have existed for years in women in active life without the occurrence of prolapsus of the pelvic organs. And, more than all this, it is said, prolapsus of the pelvic organs occurs where there is no apparent injury of the pelvic floor—i. e., no laceration of the perinæum. The fallacies of this argument are that, although the pelvic organs are held in position by supports that are sufficient to resist ordinary taxation for a given time, they are not able to do so under extraordinary pressure for any length of time unaided by the pelvic floor.

Again, the cases cited in which prolapsus does not occur while the perinæum is lacerated belong to one or another of the three exceptional states which I have already given.

And, finally, the cases in which there is prolapsus while the pelvic floor appears to be uninjured are, as a rule, cases of mistaken diagnosis, the floor of the pelvis being really imperfect, although not apparently so on examination by the sense of sight alone. Some observers look for a laceration of the perinæum by inspection of its mucous and tegumentary surfaces, and, if injury to these surfaces is not found, they pronounce the pelvic floor perfect, while the fact is that laceration of the perinæum in the median line is only one of many injuries of the pelvic floor which render it functionally imperfect. But granting that the pelvic floor takes no part in supporting the pelvic organs under ordinary taxation, it certainly aids in doing so in case there is extraordinary downward pressure from lifting heavy weights, violent coughing, and the like. Again, when the pelvic floor is injured—say by laceration—and loses the power to support itself and the vagina and rectum, prolapsus, especially of the vagina, occurs. This causes a dragging upon the pelvic organs which in due time will cause them to descend. In view of these well-known facts, the most enthusiastic advocate of the independent supports of the pelvic organs must admit that the pelvic floor is at least indirectly concerned in supporting the structures above it.

Varieties.—The injuries of the pelvic floor usually seen in practice are:

1. The various degrees of laceration of the perinæum, i. e., in the median line of the pelvic floor.

2. Subcutaneous separation of the muscles of the pelvic floor at their junction in the median line, or so-called perineal body.

3. Laceration in the median line, and temporary loss of power in the remaining muscles from over-distension.

4. Laceration of the levator ani muscle, occurring alone or accompanied by the lesions already given.

5. Atrophy and permanent paralysis from injuries during parturition and other causes.

6. Loss of muscular motion caused by the products of former inflammation.

The first of these, laceration in the median line of the pelvic floor, is the injury most frequently sustained during parturition. Several degrees of this injury are described by teachers, but in regard to the pathology and treatment there are only two which, in this connection, require attention: the one which extends through the muscles of the anterior portion of the pelvic floor—that is, from the vulva to the sphincter ani muscle, and the other which extends through the sphincter ani muscle and into the rectum. The former of these is the injury which is most frequently recognized, and is therefore presumed to occur most frequently, although this point is not yet settled. Certainly it is the least grave in its consequences if properly cared for, because it is the most easily remedied by surgical treatment.

In its simplest form the laceration extends through the mucous membrane of the vagina, the integument, and the junction or union of the bulbo-cavernosus with the transversus perinæi muscle, a few fibers of the levator ani and the fascia, elastic and areolar tissue which constitute the perineal body.

When this injury is uncomplicated with laceration of the muscles of the pelvic floor elsewhere than at the median line, the separated ends of the muscles involved in the rupture still retain their union to the divided side of the perineal body and to each other. This is very clearly shown by the fact that the bulbo-cavernosus, transversalis perinæi, and anterior fibers of the levator ani muscles hold the separated sides of the perineal body and the posterior, uninjured portion of the pelvic floor upward. At the same time that the posterior portion of the pelvic floor is maintained at its normal elevation, it is often brought forward to compensate for the loss of support caused by the laceration. (See Fig. 4.) This compensation does not occur in all cases, but usually does so unless there is damage done to the muscles other than at the median rupture alone. I have observed in some cases sufficient drawing forward to lessen the distance between the meatus urinarius and anus very perceptibly. This is familiar to all who have studied the

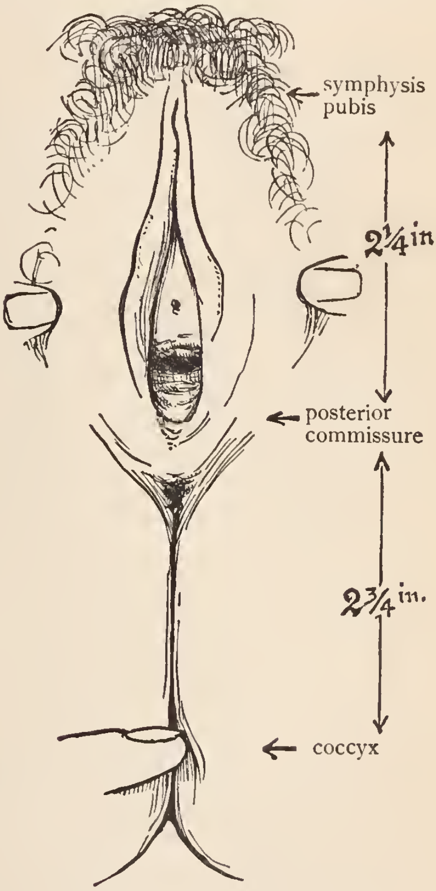

Fig. 4.—Laceration of the perinæum; anus drawn forward.

subject with a view to operating, from the fact that, in order to estimate the depth of the laceration, to determine how extensive the vivifying of tissue need be, it is necessary to retract the posterior portion of the pelvic floor with the finger or sound in order to press the rectum or anus backward into its place. This compensation prevents prolapsus of the pelvic organs for a long time, in some cases for many years, and is one reason why rupture of the perineal body is not always followed by prolapsus uteri. In this condition the vulva is not enlarged from distension by the partially inverted vaginal walls, nor is the uterus necessarily displaced. Many such cases are seen among patients who seek relief for other affections, but have no symptoms which can be traced to the laceration, except occasional pain in the scar tissue in the injured part.

Case.—Mrs. H., aged forty; six children. During first labor says she was "torn," the child weighing thirteen pounds. Of the perineal body only anal sphincter remains; but a little way up the posterior vaginal wall a thick, strong, active muscular band crosses, which tightens about the examining finger. It draws posterior commissure and anus forward, and puckers the skin surface between them. Uterus in place. No rectocele. No sagging of pelvic floor. (See Fig. 4.)

Rupture through the sphincter ani is the most unfortunate of all injuries of the pelvic floor, owing to the incontinence which follows. The unfortunate subjects of this accident are debarred from taking much active exercise, and usually avoid society. Strange as it may appear, they do not all suffer from prolapsus of the pelvic organs—in fact, I think that prolapsus following this injury, to any great degree at least, is the exception. This is, no doubt, due to the fact that such patients are unable to do much walking or standing, and therefore the pelvic organs are not submitted to much downward pressure. It might be supposed that relief from this distressing condition would be sought before time was given for prolapsus to occur, but this is not always the case, for I have seen several such injuries of many years' standing, and yet there was very little displacement. There is indeed very little falling of the pelvic floor or of the divided sides of it. This is accounted for by the fact that the laceration extends through the major portion of the pelvic floor, leaving little remaining to settle downward. In most cases the two halves of the floor are held well up in position by the muscles which are attached to them. When the laceration is through the sphincter ani muscle only, and does not extend upward into the anterior wall of the rectum and the posterior wall of the vagina, there is a little control of the rectum still retained.

This retaining power is sometimes favored by a band of scar tissue, which lies between the upper fibers of the divided sphincter, and gives a fixed point toward which the muscle can contract in an imperfect way. There is usually prolapsus of the mucous membrane of the rectum in cases of any long standing, and the prolapsus is almost always greater if the wall of the vagina and rectum are also lacerated to any great extent.

The second form of injury mentioned in the classification is subcutaneous separation of the muscles of the pelvic floor at their junction in the median line, or perineal body. The mucous membrane of the vagina and the skin covering the perinæum remain normal, but the transversus perinæi muscles are torn apart in the median line. The bulbo cavernosus muscles are separated from their insertion at the center of the perinæum, and possibly some of the fibers of the levator ani muscle are also lacerated. There is, in short, a complete laceration of the deeper structures of the perinæum, the skin and mucous membrane alone remaining uninjured. The result of this injury is falling of the pelvic floor, and usually prolapsus of the pelvic organs. The function of the pelvic floor is destroyed as completely as in the first injury described.

I believe that this condition has frequently been mistaken for functional imperfection of the perinæum, or relaxation, as it has been called. The fact is, that it is a well-defined anatomical lesion, which can be demonstrated quite easily by passing the finger into the vagina and pressing downward and outward. In this way the absence of the muscles, fascia, and connective tissue is discovered. It is found also by this examination that all muscular resistance is lost in the parts. Again, while the index-finger is in the vagina the parts anterior to the sphincter ani muscle can be grasped between the finger and thumb, which will show that where the perineal body should be there is only skin and posterior vaginal wall. There is still another method of examination, and, perhaps, the most critical one—that is, to pass an index-finger into the vagina and the other into the rectum, when it will be found that the only resisting muscular tissue felt between the two fingers is the sphincter ani.

These examinations by the touch are quite sufficient; but, if further evidence is desired, it may be obtained by trying to excite contraction of the muscles which act as a sphincter vaginæ. This can be done by the interrupted electric current, or by irritating the labia. In making a vaginal examination, every one has noticed how actively the muscles of the pelvic floor contract and close the introitus vaginæ in the normal state; but in this injury no such contraction occurs, nor can it be produced by pricking the labia with a needle, or any such means used to excite reflex action.

In case the levator ani muscle remains intact, the posterior portion of the pelvic floor remains in its normal position, except that the end of the rectum may be displaced backward, which it often is, because the vagina and uterus are prolapsed. The counterpart of this lesion is often seen in cases that have been operated upon with the intention of restoring the pelvic floor or perinæum, the operation having failed in its object. Union of the skin and mucous membrane is obtained, but the muscles are not united, and hence, although upon removing the sutures the result is pronounced to be perfect, and to the superficial observer appears to be so, the muscular function of the pelvic floor has not been restored, and the operation is, in fact, a complete failure.

The third form of injury given in the classification presents the same lesions as given in the two preceding forms. There is a laceration in the median line down to the sphincter ani, and also an overstretching of the muscles, which gives rise to sagging of the whole pelvic floor and backward displacement of the rectum. In some cases, in place of overstretching there is retraction of the ends of the torn muscles, so that they have no further connection with the divided sides of the perineal body or with the sphincter ani, and hence they no longer can sustain the pelvic floor even in an imperfect way, as observed in cases of simple laceration already described, in which compensation is made by the muscles drawing the posterior portion of the pelvic floor upward and forward. Evidence of this subcutaneous over-distension or retraction of the muscles and temporary paralysis is seen in a great many cases of parturition. Every obstetrician has observed the complete relaxation of the pelvic floor that so frequently follows delivery, even where there is no laceration of the integuments. There is not only loss of muscular motion, but also loss of sensation in some cases. That this relaxation is due in many cases to over-distension without solution of continuity of the muscles is probable from the fact that recovery is so rapid and complete. Still, in many cases the injury done to the muscles is sufficient to defy the natural recuperative powers, and remains permanently, if not relieved by surgical treatment.

In many of the cases of this kind seen in practice the muscular insufficiency is doubtless caused by over-distension produced by prolapsus of the pelvic organs. As soon as the pelvic organs descend so as to make continuous pressure upon the pelvic floor, the muscles (impaired by the laceration in the median line) gradually give way, and finally lose their contractile power, either temporarily or permanently, according to the length of time that the prolapsus has existed. It follows, then, that it is only when sagging of the pelvic floor is seen before any prolapsus of the pelvic organs has taken place that we can reasonably infer that the muscles were impaired at the time that the laceration occurred, and that the injury was more extensive than the mere separation at the median line.

The fourth injury is laceration of the levator ani muscle with or without being accompanied with the injuries which have been described already.

This is the most extensive injury which occurs, and is one of the most disastrous of all in its consequences, and what gives it greater importance is the fact that it is not, so far as I know, mentioned in our literature. I am satisfied that this injury to the pelvic floor occurs frequently, but, fortunately, recovery occurs many times unaided by any special treatment. Still, there are many cases in which the injury is permanent, and can not be relieved by any treatment known at the present time. This condition may be associated with complete laceration in the median line, but usually is not. I presume that the subcutaneous laceration of the muscles saves the superficial structures of the perineal body. When there is no laceration in the median line the tissues between the rectum and vagina appear to be normal; at least the distance from the anus to the posterior commissure of the vagina is normal, but there is loss of contractile power in the parts. The whole pelvic floor, including the rectum, vagina, and lower part of the labia, projects downward below its normal elevation. This suggests the thought that subcutaneous laceration of the transversalis perinæi generally takes place also when the levator ani is injured.

Fig. 5 shows the downward displacement resulting from the injury to the muscles. This displacement can be demonstrated upon the subject by placing one finger upon the pubes and the other on the tip of the coccyx, and observing the extent to which the pelvic floor projects below these two points. Again, by placing the patient upon the side and flexing the thighs at right angles with the trunk, the downward displacement becomes apparent. In the most pronounced cases the parts project down almost on a line with the nates. The physical signs of this form of trouble will be referred to again in connection with atrophy of the muscles and the differential points noted.

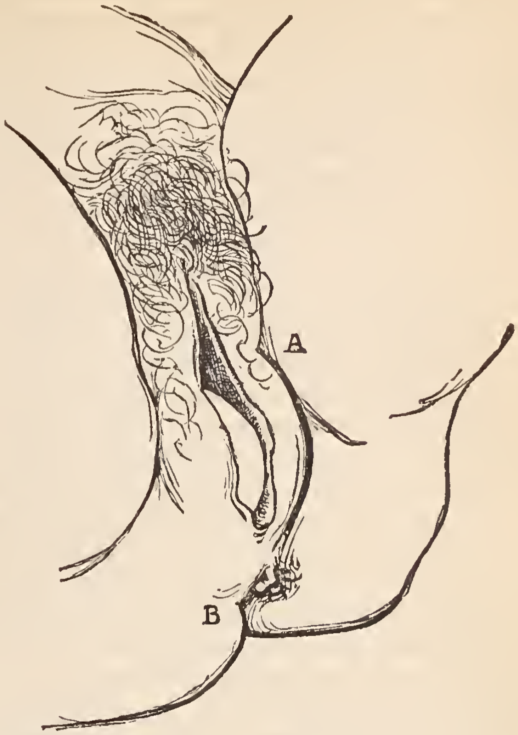

Fig. 5.—Sagging of the pelvic floor. The heavy line from A to B denotes the sagging portion of the pelvic floor.

Atrophy, and the consequent paralysis from injuries during parturition and other causes, occurs only in cases of long standing, and is, in fact, a secondary state resulting from laceration of the muscles or over-distension. It may follow any of the injuries already mentioned that have been long neglected, or in which unsuccessful efforts have been made to overcome the original injury. The muscles, having been torn or separated from their ligamentous attachments during parturition, become functionally inactive, and remain so until they undergo fatty degeneration and are finally lost. These are usually neglected cases, but the same condition is seen when a surgical effort at restoration has been made which has resulted in union of the skin and mucous membrane without restoring the muscles. The same thing is produced in another way. The pelvic floor sustains an injury, slight in itself, which is permitted to remain until prolapsus of the pelvic organs produces over-distension of the muscles, and maintains it so long that atrophy of the muscles takes place and permanent loss of the function of the pelvic floor follows. Other and rarer cases are seen in which atrophy of the muscles occurs as the result of long-continued over-distension. This I have seen in cases of paralysis caused by hypertrophic elongation of the cervix uteri and small fibroids in the uterus. In these cases there was no evidence that the floor had sustained any injury other than that produced by the prolapsus. I am also personally convinced that prolapsus of the pelvic organs may be due to injuries of the uterine ligaments and upper pelvic fascia while the pelvic floor sustained no injury whatever until the prolapsed organ caused over-distension of it. Again, habitual constipation will cause paralysis of the muscular tissues of the rectum, and also (to some extent, if not wholly) of the levator ani, and, if this continues long enough, atrophy and permanent paralysis will follow. If to this constipation prolapsus of the pelvic organs is added, and they both continue for a long time, permanent insufficiency of the pelvic floor will occur from muscular atrophy. Finally, I presume (though I can not prove) that atrophy of the muscles occurs in very old women from no other cause than senile malnutrition. In this state of the parts other anatomical lesions occur in nearly all cases. The fascia and elastic tissue are wanting, and the blood-vessels—notably the veins—become over-distended, giving a well-marked passive hyperæmia. The vast difference in the vascularity noticed in operating in different cases is accounted for in this way.

The extent of prolapsus which occurs in this form of muscular insufficiency differs. In the most marked case that I have seen it was so great that the anus was nearly on a line with the nates while the patient was in Sims's position. The physical appearance of this affliction has been already illustrated in connection with recent lacerations—the fourth injury described. (See last Fig.) The information obtained by inspection is sufficient for a diagnosis usually, but still further evidence can be obtained by the touch; this shows the lax, non-resistant state of the muscles, which, as already stated, can not be excited to contraction by irritation or the electric current.

In the diagnosis of all these injuries, the all-important question is to determine whether the paralysis is due to over-distension of the muscles and temporary only, or due to atrophy, and hence permanent. This can not always be settled at once and positively. If the tissues of the pelvic floor appear to the touch to be lacking muscular fiber, and no muscular contraction can be induced by stimulation, it is presumptive evidence of muscular atrophy; and yet it may be only a temporary loss of muscular power. It is necessary, then, to support the pelvic floor and let the patient rest in the recumbent position to remove all downward pressure from the parts, and, by the use of astringents and electricity, endeavor to restore the muscular function sufficiently to prove that there is still muscular tissue present. If by such means the muscular function is even partially restored, the diagnosis is completed, and the indications for further treatment are established. It is then and only then that surgical treatment may be employed with the hope of obtaining complete recovery. Should all well-directed efforts fail to give evidence that the muscles still retain their true anatomical characteristics, it is useless to hope for success in operating.

Symptoms.—The symptoms which are developed by injuries to the pelvic floor are not sufficiently diagnostic, or else they have not yet been sufficiently studied, to make them of decided value to the diagnostician. Patients express a feeling of want of support of the pelvic organs, or dragging down feeling, and some derangement of the functions of the rectum and bladder, but, as these symptoms occur in all the forms of injury named, and as they also in like manner occur in displacement of the pelvic organs, but little reliance can be placed upon them. When the function of the levator ani muscle is lost from injury or atrophy, there is usually much difficulty in evacuating the rectum. This is, of course, most marked when the patient is constipated, but it is noticed also when the bowels are free, to a less extent. When there has been a laceration in the median line the scar tissue is often tender to the touch, and occasionally causes some general nervous disturbance. The sensitiveness of this scar tissue is sometimes so great as to produce reflex muscular contraction when touched while the patient is anæsthetized. The admission and expulsion of air from the vagina (flatus vaginalis) is said to occur frequently in these injuries, and it is no doubt one of the most reliable symptoms of injuries of the pelvic floor, as it rarely occurs in any other condition.

The last of the pathological states of this structure to be described is muscular rigidity produced by a previous inflammation, the products of which have impaired the muscular tissue.

This affection has been classed by authors under the head of rigid perinæum, vaginismus, and spasmodic muscular contraction, but it belongs to a different pathological order of things. There are cases of rigidity or spasmodic contraction of the muscles due, perhaps, to hyperæsthesia, but the condition under consideration is simply a rigid state of the muscles caused by the products of a former inflammation which impaired the elasticity and motion of the muscles. The cases of that kind that I have seen gave a history of pelvic inflammation—in two following scarlatina, in one from an injury sustained by falling upon the rail of a fence, and in another of a perirectal abscess. No difficulty was experienced in either case until after marriage, when it was found that coition was impossible. An examination showed that the vagina was rigidly closed and the muscles of the pelvic floor could not be distended. All efforts to move them caused severe pain. In short, there was muscular ankylosis. The treatment for this affection commended in the books is to incise the pelvic floor from the vaginal orifice down to the sphincter ani muscle, an operation entirely uncalled for and unsatisfactory in its results, as will be seen when we discuss the treatment.

Causes.—The causes of these injuries are traumatic (excepting the last one described), that is, over-distension or stretching of the parts during parturition. The exceptions to this have already been mentioned, viz., long-continued over-distension from prolapsus of the pelvic organs, extreme constipation, and malnutrition in old age.

There are, no doubt, certain states which predispose to these injuries. Phlegmatic women who have failed to take exercise sufficient to develop these muscles are liable to lacerations during parturition. In such cases the muscles of the pelvic floor are poor in quality, and break easily under extreme pressure. The very opposite of this apparently predisposes to the same accidents. In vigorous muscular women the pelvic floor is often unyielding because of the great strength of its muscles. They resist the pressure of the child as it is forced against the pelvic floor by a powerful uterus, and, seemingly, rather than relax and stretch, their union at the median line gives way; it is in such cases that complete laceration in the first degree is most likely to occur. Again, in those in whom the pelvis is shallow and wide in the straits, the child passes easily through the pelvic bones, when rather sudden unrestrained pressure comes upon the parts and they are unusually liable to give way. In others still, either from habits of life or the position of the uterus in relation to the pelvis, the return circulation is retarded, the vessels become over-distended, and a deranged nutrition, with softening of the tissues of the pelvic floor, renders them easily torn.

The immediate cause of lacerations—whether subcutaneous or complete—is distension during delivery. The tissues in the median line give way in the great majority of cases because the greatest pressure is brought to bear at that point. That the laceration extends to, but not through, the sphincter ani muscle, as a rule, is no doubt due to the strength of this muscle. In fact, it is a matter of surprise that the sphincter is ever lacerated when its position is considered in relation to the force brought to bear upon it. The only rational explanation of the laceration which I have been able to obtain from a careful clinical study of the matter is as follows: The transversalis perinæi, levator ani, and bulbo-cavernosus muscles are so strongly attached to the sphincter ani muscles that, during delivery, when the head distends the pelvic floor they hold the sphincter ani upward and forward. If the size of the head is out of proportion to the distensibility of the pelvic floor, one of two injuries must occur; either the muscles attached to the sphincter must give way and permit the sphincter to recede downward and backward and escape injury, or else the sphincter must be torn through. This effect of the other muscles upon the sphincter ani during delivery of the child's head can be seen by the way in which the sphincter ani is drawn upward until the anus is distended an inch or two. While the fœtal head unusually distended the pelvic floor, and while the hand was placed upon the parts to "support the perinæum," I have felt, or fancied that I could feel, the muscles attached to the sphincter ani give way and permit the rectum to recede backward and escape injury.

Regarding the causes of injuries to the levator ani muscle, one has only to recall the phenomena of labor as related to it to understand how it may be freely lacerated in ordinary labor. It certainly is as freely exposed to injury as some of the other muscles which we know are frequently lacerated subcutaneously. In delivery with forceps, the levator ani muscle is frequently injured, I believe. While the child's head is in the grasp of the forceps and during traction, I have noticed, by passing the finger into the rectum, that the levator ani was drawn so tight over the edges of the blades of the forceps that it appeared as if it must be torn, and I feel sure that it often is. I am the more fully convinced of the truth of this by having carefully watched patients that I had delivered with forceps, and have found in some of them evidence of injury of the levator ani above its lower attachment. That evidence was obtained by finding, on subsequent vaginal examination, that the resistance of the levator muscle usually found was wanting, and also that there was prolapsus of the pelvic floor, and loss of contractility upon irritating the parts.

(*To be continued.*)

SECONDARY NERVE SUTURE.*

By THOMAS M. MARKOE, M. D.

It has long been known that divided nerves would, under certain favorable conditions, unite, with restoration, more or less complete, of the functions which had been abrogated by the injury. Indeed, this fact has played a prominent part in the results of the operations which have been performed on nerves, the seats of neuralgia, where it has been sought to cure the pain by abolishing the sensibility of the affected nerve, by separating it by section from its trophic center. These operations, as is well known, though giving temporary relief, have commonly failed to be of permanent benefit, because the divided nerves after a certain lapse of time have reunited, with re-establishment of function which has announced itself by a return of the pain in all its original severity. To avoid this disappointing result, operators have been at much pains to prevent, if possible, the reunion of the divided trunk, and various devices have been resorted to for this purpose. Sometimes considerable portions of the nerve have been removed, sometimes a loop of the exsected nerve has been doubled back at each cut extremity, and some have fastened back these loops by sutures or ligatures. Some have modified this procedure, where the trunk was easily accessible, by burying the looped ends deeply in the surrounding tissues, and sometimes foreign bodies have been interposed between the divided ends to keep them separate until the disposition to unite should disappear. In spite of all these precautions, it has not been possible, in certain cases, to prevent a recurrence of the neuralgic disorder, a recurrence which is generally believed, and in some instances has been proved, to be associated with a union, and sometimes with an extensive regeneration, of the injured nerve. Examination of nerve-trunks which have undergone this regeneration have shown the nerve-tubules perfectly restored in their continuity, and but little changed from their normal condition.

Such facts as these led very naturally to the hope that nerves, accidentally divided, and where restoration of function has not occurred, might be restored to their normal powers of transmitting sensory and motor impressions by exposing the injured trunk and bringing together by suture the divided ends. This operation is not by any means a new one. It was done by Arnemann in 1826, and by Flourens in 1828, and it is stated that it was practiced by Dupuytren, in several instances, at the Hôtel Dieu. It was not, however, until after the elaborate researches of Augustus Waller, which were published in the *Comptes rendus* of the Academy of Sciences in Paris, in the year 1852, that the operation was placed on a scientific basis. He showed, by means of experiments on animals, the whole history of degeneration and regeneration of nerves after injury so completely that he has left scarcely anything to be done by his successors, and, encouraged and guided by his discoveries, surgeons have performed the operation of the suture of divided nerves in a large number of cases in England, on the continent, and in this country, with a success generally extremely satisfactory, though it must be acknowledged not equally or uniformly so. The operation has been done in certain instances immediately on the receipt of the injury, while the cut surfaces were yet fresh; and it has been done as a secondary operation, weeks, months, and even years after the original accident, thus dividing the operations into two classes, the primary and the secondary. It is of the latter only, the secondary operations, that I propose to speak this evening.

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* Read before the New York Surgical Society, February 24, 1885.

I have had the opportunity of performing the operation in two cases, of which the histories are as follows:

Valentine Keller, aged thirty-six, a German, was brought into the New York Hospital, December 25, 1883, with a stab wound of the left arm. The wound was situated on the external aspect of the arm, about two inches above the external condyle of the humerus. It was not more than half an inch long, but the blade of the instrument had penetrated so far as nearly to transfix the limb, grazing in its course the anterior face of the bone. It was noticed that there was no pulsation at the wrist. A counter-opening was made at the point where the wound approached the skin on the inner side of the arm, and a fenestrated drainage-tube passed from one opening to the other. The day after his admission, without any apparent cause, a profuse arterial hæmorrhage took place. The wound on the inside was enlarged, and the brachial artery tied above and below the wounded point. No further hæmorrhage occurred, but the loss of blood had been so great as to bring on a condition of collapse which was very alarming. Transfusion with a saline fluid was promptly resorted to, and gradually the patient rallied. The wound healed slowly, mainly by granulation, and cicatrization was not complete till the end of January. On the 20th of January attention was called to the fact that paralysis, both of sensation and motion, existed in the parts supplied by the musculo-spiral nerve. There was loss of the power of extension of the hand; flexion of the hand not impaired. There was loss of extension of the fingers, flexion remaining perfect, motions at elbow joint perfect. Anæsthesia, but not complete, existed over dorsal surface of thumb, index and middle fingers, with a good deal of burning pain. He had now recovered his general health, but no improvement could be discovered in the paralyzed parts, though electricity and massage were daily and faithfully employed. He suffered so much from the causalgia, and the trophic disturbances in the muscles and skin were beginning to show themselves so distinctly, that suture of the nerve was decided upon, and performed on the 9th of February, forty-six days after the receipt of the wound.

An incision was made along the course of the musculo-spiral nerve, having the scar of the wound as its center. A good deal of cicatricial tissue was encountered in passing down between the brachialis anticus and the supinator longus, but, when the nerve was reached, it was found to be free and distinct above and below the point of injury; and was, without much difficulty, isolated from the cicatricial mass and cut off clean with a pair of sharp scissors. By flexing the arm the divided ends could be easily brought together, and the two were united by two slender catgut sutures passing through the substance of the nerve. The signs of degeneration of either end were not distinct. The wound was carefully closed and the forearm left flexed at about a right angle with the arm.

February 10th.—Complains of much pain in the wound, but says he feels it radiating down the limb, along the musculo-spiral distribution, mostly on the dorsum of the thumb and the index-finger. This pain was regarded as a favorable sign, and, it was hoped, would be the precursor of rapid restoration of lost power. This expectation, however, was not realized. The pain gradually subsided, and then disappeared altogether, the wound meanwhile healing well, mostly by primary union. By the time the operation was performed the man had recovered his health and strength, and seemed to be in as good a condition as could be desired for its success. Electricity and massage were employed daily, and he was encouraged to use the arm as much as possible. The faradaic current caused no response. The galvanic produced at first some contraction, but this soon ceased entirely. The affected muscles were flabby, but not appreciably atrophied. He was kept under observation, and treatment was sedulously continued, when, on the 14th of April, at his own request, he was discharged from the hospital. At this time there was no apparent improvement in the condition of the paralyzed muscles. The conditions as to sensibility were not noted. The hand and fingers were perfectly powerless so far as extension was concerned, and the member was therefore practically useless. I explained to him that restoration of function was often long delayed in these cases, and encouraged him to use all the muscles of the limb that were capable of acting, and in particular I urged him constantly to direct his will along the paralyzed cord and try to make the muscles respond to their natural stimulus. I heard nothing more from him except that he was under Dr. McBride's care in the out-patient department of the hospital, and was not improving. Recently, however, I have received a note from Dr. McBride saying that Dr. S. O. Van der Poel, Jr., who had acted in his absence, had reported to him that the man had so far recovered the use of the limb as to be able to go to work.

I saw him on the 1st of February, and found that he had regained the use of the paralyzed muscles so far that he could extend the hand and fingers, and supinate the hand almost to the full extent, and with a good deal of power. The actions could not be performed rapidly as yet, nor completely, owing, no doubt, to the stiffness of the joints concerned from prolonged disuse. He is conscious of daily improvement, both in strength and facility of movement. The muscles can be felt to contract under the finger, and have regained their normal bulk and firmness.

The second case was to me one of unusual interest, as I had no experience, either of my own or of others, to guide me in diagnosis, prognosis, or treatment. I believe the case to be unique in the history of surgery.

Lillie Dougherty, aged five years, was admitted to the New York Hospital, October 22, 1884, with a wound of the neck, inflicted by a sharp, clean instrument a short time before her admission. There was found an irregular wound, extending from the nucha on the left side, opposite the fourth cervical vertebra, passing obliquely downward and forward to the posterior border of the sterno-cleido-mastoid muscle, and stopping about an inch above the upper margin of the clavicle. The sterno-mastoid and the trapezius were both partly divided. Considerable hæmorrhage had occurred, but no vessel required a ligature. The child was slender in form, pale and delicate in appearance, but in good health as far as could be ascertained. The wound was brought together carefully, treated antiseptically, and healed, partly by granulation, in about a month. Soon after the injury, October 30th, it was noticed that she was unable to raise the right arm from the side, and gradually, as the disability of the shoulder from the wound subsided, it became evident that a certain amount of paralysis existed, unquestionably dependent upon some nerve injury inflicted in the depth of the wound. There was no nerve-trunk in the course of the wound whose division could account for the paralysis, and in point of fact nothing but a wound of some part of the brachial plexus was competent to explain the symptoms presented, and this idea was rejected by me at first, and for two reasons: First, the wound did not appear deep enough to reach any part of the brachial plexus, and, second, the line of incision in the neck seemed to be entirely above the course of the fifth cervical nerve which forms the uppermost cord of the plexus. On carefully studying the conditions, however, I finally reached a positive diagnosis, becoming convinced that nothing could have happened in such a wound, except a severing of the upper cord of the brachial plexus, which could afford an explanation of the symptoms presented.

These symptoms were loss of power of abduction of the arm and of flexion of the forearm upon the arm. Supination was limited and feeble; pronation good; extension of the forearm slightly, if at all, affected. Flexion and extension of the hand and fingers were not notably impaired. Anæsthesia was well marked over the shoulder and the outer aspect of the arm. By the time that cicatrization of the wound had taken place, about the 1st of December, these signs of paralysis had become perfectly distinct, and it was also noted that atrophy was beginning, and was in fact well marked in the deltoid, and supra- and infra-spinatus muscles, and less distinctly in the biceps and brachialis anticus.

She was placed upon tonic and invigorating treatment and regimen, and everything was done to improve and maintain her general health. Faradization of the affected muscles and friction of the shoulder and arm were continued daily, but without any manifest results. The general condition improved very much to our satisfaction; she was very tractable and obedient in seconding our efforts to make her use her arm and shoulder muscles as far as her will had any control over them. No improvement could be discovered, the arm hung useless by her side, and, when she wanted to play with her dolls, she had to lift the palsied arm on to her lap with the other hand, and then she could use the fingers to hold it.

On the 8th of December a careful examination of the reaction under galvanic and faradaic currents was made with the following results:

MUSCLES OF THE SHOULDER.

Nerve.	Muscle.	Galvanic current.	Faradaic curr'nt
Spinal accessory.	Sterno-mastoid, trapezius.	Normal.	Normal, m. and n.
Anterior thoracic.	Pectoral.	Normal.	Normal.
Subscapular.	Latissimus dorsi.	Normal.	Normal.
Circumflex.	Deltoid.	Normal; increased when applied to muscle direct (reaction of degeneration).	Absent; muscle atrophied.

MUSCLES OF THE ARM.

Nerve.	Muscle.	Galvanic current.	Faradaic curr'nt
Musculo-cutaneous.	Biceps, brachialis anticus.	Normal; increased when applied to muscle direct (reaction of degeneration).	Absent, m. and n.; atrophy of muscles.
Musculo-spiral.	Triceps, supinator longus.	Normal.	Normal or slightly diminished.

The reaction of the muscles supplied by the rhomboid, suprascapular, and long thoracic nerves could not be satisfactorily obtained, but the muscles themselves showed marked atrophy. The muscles of the forearm were not involved.

The faradaic current was now replaced by the galvanic, which was applied daily. No improvement in muscular reaction. Atrophy of shoulder muscles appears more marked. Her general condition is greatly improved. She is in good spirits, eats and sleeps well, and presents the appearance and demeanor of a child in good health.

That the most careful study of the paralyzed muscles alone would have warranted a diagnosis as to the precise point of injury I am not prepared to assert. Taking, however, all the points as they have been presented above, and associating them with a careful topographical survey of the line of the wound, and there seemed to be but one conclusion to which all the facts pointed, and that conclusion marked the fifth cervical nerve, which is the first or upper cord of the brachial plexus, as the seat of the injury, and, in consultation with my colleagues, it was deemed right to make an attempt to suture the wounded cord in the hope of restoring the functions of a limb in its present condition absolutely useless. In view of the fact, however, that these injuries to nerve-trunks do sometimes recover spontaneously, it was thought best to wait, before undertaking any operation, until it should become quite certain that nature was unable to effect a cure. Accordingly, treatment was steadily persevered with until the beginning of March, when, no improvement being perceptible, it was deemed justifiable to try what surgery could do to bring relief.

The operation was done March 2, 1884, one hundred and thirty-one days after the infliction of the wound. An incision was made along a line corresponding to the upper part and outer margin of the brachial plexus, and carefully followed down until this border of the plexus was reached. The cicatricial tissue was very extensive, and very confusing as we tried to recognize the anatomical landmarks, and a very careful and tedious dissection was necessary before we clearly recognized the nerve-cord involved in the wound. Finally, however, the nerve-trunk above and below the wound could be distinctly seen, and was isolated sufficiently to enable us to trace its whole length from the point of its emergence from the intervertebral foramen to the point where it joins the plexus below. We were extremely careful not to handle roughly, or to pinch with forceps, any part of the exposed nerve, and this it was that so greatly prolonged an already very tedious operation. The cord which was now seen to be the upper root of the plexus, as we had originally supposed, was divided in two places with sharp scissors, so as to include all that part involved in the cicatrix, leaving a clear cut on both distal and proximal ends through healthy nerve-substance. I say healthy nerve-substance, but it became evident, on making the section, what I suspected when the nerve was first exposed, that the distal portion beyond the cut was in a condition of physiological integrity, while the short portion, less than an inch in length, which formed the proximal stump, was manifestly smaller, its fibers not so clean and glistening as in the cord below and in the surrounding nervous trunks. In short, it was the proximal, and not the distal, portion of the cut nerve which had undergone the classical degeneration, the distal portion retaining almost perfectly its normal appearance. I very much regret that I can not make this statement with the authority which would give it value as a scientific fact; for, unfortunately, no microscopic examination of the cut ends was made, and I am well aware that the gross appearances, though very distinct, would not alone be reliable evidence as to the condition of the nerve-tubules. Two very fine catgut sutures were now passed through the cut ends and tied not very tightly. Some strain on the suture was easily overcome by flexing the head on the trunk, and drawing it toward the left side. In this position it was secured by bandages. The wound was dressed with iodoform and sublimate gauze, and behaved perfectly well, though not healing entirely by primary adhesion. By the 14th of March the wound was cicatrized, and she soon regained her usual condition of health. Convalescence was delayed by a pretty threatening attack of purulent conjunctivitis, which at one time seriously threatened the cornea. This, however, passed safely by, with no corneal damage, and no further complication occurred. The electrical treatment was resumed, and continued during the remainder of her stay in the hospital. No improvement followed the operation, and at the time of her discharge, in the beginning of May, the condition of the muscles, both with regard to electrical reaction and voluntary motion, was just what it had been before the operation, saving that the atrophy, particularly of the deltoid, was more than ever conspicuous.

During the summer she was taken to the country and seemed in all respects quite well, but no change in the paralyzed parts was noticed until about the 1st of October, when slight voluntary motion began to show itself, which slowly but steadily improved. About the middle of January she was brought to my office, and I was delighted to find that she could flex the forearm upon the hand, and could abduct the arm from the side, during which movements the muscles could be felt contracting and hardening under the finger placed upon them. The shoulder had recovered its rounded contour and the flexor muscles had become markedly developed. In short, the evidences of atrophy had disappeared, and the indications of voluntary power were daily increasing. On the 21st of February I saw her again, and found the extent and power of muscular motion surprisingly increased. The case promises to prove a complete success.

The study of this whole subject during the last fifty years has led to some important and very interesting discoveries as to the behavior of nerves under and after severe injury. In the first place it has been shown that, after complete section of a nerve-trunk, there ensues a degeneration of all that part of the nerve beyond the point of severance which extends throughout the whole distribution of the cut nerve, and is so complete that, according to most observers, all trace of original nerve-tissue is lost. There is, however, considerable discrepancy of opinion as to the completeness of this destruction, some contending that it is absolute and entire, others believing that the sheaths of Schwann and the axis-cylinder never entirely disappear. That nerves thus degenerated after section was known long before his time, but Augustus Waller, in 1852, by his admirable and ingenious experiments, brought out all the facts connected with both the degeneration and regeneration of nerves so completely that scarcely anything of importance has been added to the history of the process since his time. The changes, as described by Ranvier, are about as follows: The experiments being conducted on cats and dogs, it was found that after section of a nerve the distal segment began to show signs of change as early as the first day. The myelin begins to disintegrate, and by the fourth to the sixth day has mainly disappeared, leaving the sheaths of Schwann filled with fine, fatty granules. The axis-cylinder has also, by this time, according to his observations, entirely disappeared. By the twentieth day the sheaths of Schwann have become empty, and this he considers to mark the extreme point of degeneration, from this condition very little change being observed. A similar degeneration is noticed to begin at the cut extremity of the proximal end, but only reaches for a line or two from the end of the nerve, and then ceases, the axis-cylinder remaining unchanged. This disintegration is now to be followed, after a varying interval, by a regeneration by which, in favorable circumstances, the altered nerve is to be restored to its normal condition and functions. This change consists in a reversal of the steps which the nerve took in its degeneration. The sheaths of Schwann which, according to this observer, never entirely disappear, begin again to be filled out with a granular substance which soon assumes the character of myelin, the axis-cylinder makes its reappearance, and, in short, the atrophied and shrunken cord gradually assumes the appearance, and nearly the dimensions, of the original nerve. While this reformation of the nerve-tubules is going on the union of the cut ends is being accomplished. By about the twentieth day fine delicate fibers begin to sprout from the proximal end into the cicatricial tissue which surrounds it, and, gradually developing themselves in size and perfection of organization, shoot through the intervening bond of union till they encounter the distal end, with which they amalgamate themselves. Finally, if the ends are in good apposition, the cicatricial bond of union is occupied and displaced by a newly formed nerve which joins the two into one continuous cord, in which the individual nerve-fibers are almost perfect imitations, perhaps on a slightly reduced scale, of the original nerve-elements. In the animals experimented on the repair was not perfected until about six months had elapsed. In man, it is probable that the period of perfect restoration is longer, but no accurate knowledge on this point has been attained.

Another of the effects of nerve-section which has of late engaged the earnest attention of both physiologists and practical surgeons is the paralysis of motion and sensation which usually follows a complete section of a nerve-trunk. I say usually, because the results of nerve-division are by no means uniform or constant. There are reported, for example, a certain number of cases in which, after complete section of a nerve-trunk, no loss of sensibility could be detected in the parts supplied by it, and a certain number of others in which sensibility, being momentarily suspended, has been regained in a period so short as to make the immediate and perfect union of the divided ends the only explanation possible of the rapid restoration of nerve-power. Still further, it is constantly noticed that anæsthesia following a divided nerve-trunk does not by any means accurately correspond with the area of distribution of the branches of that trunk, but is much less extensive than it should be, anatomically speaking, sometimes occupying only a small part of the region, the whole of which we should expect, *a priori*, would be affected. To the explanation of these facts much attention has been given by German and French observers, and much careful research has been expended with the result of leaving some of the phenomena not as precisely accounted for as might be desirable.

The first mode of explaining these facts of the limited area of anæsthesia and the rapid return of sensibility is by invoking the aid of anastomosis. That anastomosis, in the ordinary acceptation of the term, does not exist among the nerves is conceded. It has been demonstrated by Waller that the nerve-tubules individually are continuous from the point of their central origin to the point of their final distribution, and that no communication exists between the myelin in these tubules, and that therefore one tubule can not take up the function of a neighboring one which has been injured. It has been clearly shown, however, by the elaborate experiments of Arloing and Tripier, that, in the cat and the dog, and in the horse and the ass, there are certain tubules which pass from one nerve to another in a continuous or in a reverse direction, to be lost on the nerve to which they have attached themselves at a varying distance on the adopted trunk. These intercommunications are found first in the plexuses, where they are probably very frequent. Second, in the branches which are known to pass from one nerve-trunk to another in the course of its distribution, such as those that pass between the median and the radial, and the anastomotic twig that joins the ulnar and the internal cutaneous. The most abundant anastomosis, however, is found near the peripheral termination of the nerves, where all the terminal twigs unite to form the network of final distribution.

Another explanation of the partial and limited anæsthesia which sometimes follows nerve-section is found by some in the belief that there may be such a thing as the immediate union of the divided ends with immediate restoration of function. This belief is entertained by such men as Schiff, Gluck, Tillmans, Paget, and more recently by Caput and Wolberg, who consider that this primary union is so prompt and complete that no degeneration of the distal fibers can take place; while, on the other hand, it is held to be untenable, because unproved, by such observers as Nicaise, Weir Mitchell, Letievant, Brown-Séquard, and indeed by the majority of the most distinguished experimenters. These observations as to the limitations of paralysis after section do not apply quite so commonly to lesions of motility. Here the conditions seem to be somewhat different. The effect of section here seems to be, almost uniformly, a complete motor paralysis, followed pretty early by muscular atrophy, which continues until the function of the nerve is restored by its union. Letievant has, however, called attention to the fact that even here there is room for deception, the associate muscles not paralyzed acting so as in a measure to supply the deficiency of those that are paralyzed, so as to give to the whole group what he calls supplemental motility, which may easily mislead the careless observer. This error is easily avoided by applying the electrical test and by noting the atrophy which is sure to develop itself soon after the nerve supply is cut off. These electrical tests are exceedingly valuable in all stages of these injuries, and may be furnished by both the faradaic and the galvanic currents, applied either to the cut end of the nerve or to the skin over the belly of the affected muscle. It is noticed that the electrical current, applied in either way, soon after section, causes a feeble contraction of the palsied muscles, but that this contraction grows less and less from day to day as the muscular fiber is undergoing disorganization, and finally ceases altogether, the strongest current producing no response. A curious fact is observed in connection with these electrical tests. It is thus expressed by Nicaise: "The faradization curve during the first fifteen days becomes gradually depressed. After the third week the muscle is no longer excitable, at least through the skin. Toward the sixth week, in favorable cases, the excitability reappears and gradually increases until it reaches the normal reaction. The galvanization curve follows an entirely different course. During the first fifteen days it follows the faradization curve; but from the third week, when the interrupted currents have no longer any effect, the galvanic reaction becomes exaggerated, the curve is raised, soon exceeding the normal, and reaches its maximum when the other is at its minimum. At the moment when repair begins to take place the galvanic phenomena follow an inverse order; at the same time that the faradaic current is raised, the galvanic curve is lowered, and both gradually return to the normal level." This is what is spoken of as the reaction of degeneration by the German authors.

With regard to the facts of compensatory nerve-supply, after section of a trunk, there can be no doubt, as the facts are so common and so easily observed; but as to the part which anastomosis takes in this return of function, our knowledge can hardly be said to have assumed a positive character. For example, the experiment by Arloing and Tripier—in which each of the four nerves going to a toe in the dog's paw were successively divided, with the result that no insensibility to pain followed the division of the first nerve, and none followed the second, and none the third; but when the fourth was cut, complete anæsthesia was immediately produced—seems to indicate so perfect a communication between the different nerves at some part of their course that we can hardly understand why, if this communication is always present, a severed nerve should show any sign whatever of paralysis.

Another point in the anastomotic theory, which at first seems hard to comprehend, has reference to the communicating branches which join together some of the larger trunks. In these there have been shown to be fibers which pass from one trunk to another, recurving toward the cerebral centers, when they reach the trunk to which they are destined, and reaching a certain distance up this trunk toward its point of origin. Now, as far as we know, nerves in their normal condition transmit impressions only in one direction, i. e., the sensory nerves send their current from the periphery to the center, while the motor fibers bring the mandates of the central organ to the muscles at the periphery. If, therefore, there is to be any anastomotic current supplied through these recurrent fibers, the nervous impulse must pass along the nerve in a reverse direction to that which it originally followed. This is a fair objection to this part of the theory, and at first sight seems well taken. The well-known and ingenious experiment of M. Paul Bert I think fully answers the objection. M. Bert made an incision along the back of a rat, and then, having denuded the end of the tail of its skin, placed the tail thus denuded in the incision in the back, where it adhered firmly. After the union had become firm, he cut off the tail at its root, leaving its end adherent to the back. Now, upon irritating the tail at its root, evidences of sensibility to pain were distinctly manifested, showing that a nerve under altered circumstances could convey impulses in a reversed direction, very much as a telegraph-wire can convey messages in both directions.

Of the *technique* of these operations, but little requires to be said. The injured nerve-trunks are usually superficial, and therefore easily accessible. In the operations which I have done, the main difficulties have been, first, the finding and identifying the atrophied extremity, and, second, the disentangling, without bruising or laceration, of the cut ends from the cicatricial tissue by which they are surrounded, and with which they are apt to be very closely incorporated. Both these proceedings require great delicacy in handling, and great patience in unraveling the slender and fragile fibers, and in extricating them unharmed from the tough and unyielding cicatrix in which they are buried. Another difficulty which I encountered in the neck case was the misleading effect of the cicatricial tissue when I was trying to follow down the areolar interspaces in order to arrive at the injured nerve. So utter was the confusion of layers that, although I had rehearsed the operation many times on the cadaver, I found myself wandering so far from my course that I was well over toward the jugular vein before I could be sure of my landmarks. The two ends of the divided nerve being exposed, the extremity of each is to be severed with a pair of sharp scissors, taking care to go sufficiently high to reach original nerve-tissue, and at the same time being careful to avoid cutting away more than is necessary lest the tension be increased when the ends are brought together. In one of my cases, that of the arm, microscopic examination showed no trace of nerve-fiber in the part cut away by the scissors, proving that my section had not reached the real nerve-end. This I think unfortunate, and must always delay, and probably sometimes defeat, the object of the operation. Various sutures have been used to join the cut ends, but opinion seems to have settled upon catgut, as fine as is consistent with strength. The shape of the needle is not unimportant. A common round cambric-needle is the best, making its way through the tissues by displacement rather than by cutting. Wolberg recommends a flat needle, shaped like a sabre but without cutting edge. Some are careful not to pass the needle through the substance of the nerve for fear of injuring the tubules. Most operators prefer to pass the suture through the body of the nerve, as securing a stronger hold. Some cut the two ends obliquely so as to make flaps which, being applied to one another, afford an increased surface of contact. Rawa brings the ends together side by side and then surrounds them and binds them together with a catgut ligature. When much loss of substance has occurred and the ends can not be made to touch, Vanlear has suggested placing the ends in a Neuber's drainage-tube, and, with catgut threads attached to each end of the nerve, drawing them as near as possible together within the tube, and leaving the space between the ends to be filled up by the reparative material. In a case in which he found it impossible to bring the ends in apposition, Lösker resected the bones of the forearm, thus shortening the limb so that the ends could be approximated without tension. In an experiment Gluck transferred a rabbit's nerve to the limb of a chicken with success; and on the human subject Albert replaced an excised nerve with a segment of nerve taken from a recently amputated limb.

The nerve-ends being brought securely together, great care is to be taken by position of the limb that no tension should occur. The wound should be brought together so as to secure primary union if possible, as the healing by granulation is believed to exercise a very unfavorable influence on the result, particularly if it be long delayed, or accompanied by much suppuration.

The time at which return of sensation takes place is very variable, in some cases sensibility being well marked in a few days, in others not until months or even years have elapsed. It is sometimes noticed, as in my musculo-spiral case, that, very soon after suture, a painful sensation pervades all the branches of distribution of the severed nerve, and this is sometimes the precursor of a healthy restoration of sensibility. It is not so always, however, but sometimes gradually subsides, leaving the parts in their original more or less perfect insensitiveness. The return of motility is commonly longer delayed than the return of sensibility. Here we have not only the degeneration of the nerve, but degeneration of muscular fiber to be overcome, and, accordingly, this paralysis is not only more slowly recovered from, but much more frequently remains a permanent disablement. It will be noticed that, in this communication, I have scarcely alluded to the trophic changes which are so certain to ensue after nerve-section. This has not been because I undervalued these changes either in their clinical or scientific aspects. It is simply because in the two cases which have been the basis of my studies these trophic changes never assumed any prominence.

With regard to the results of the operations that have been put on record, the most recent and the best tabular statement is found in Weissenstein's article on Secondary Nerve Suture, in von Bruns's "Chirurgische Klinik," 1884. He gives the results of thirty-three cases, from all sources, in which the operation has been done at varying periods after the nerve injury, in almost every case after the original wound had healed. To these thirty-three cases I have been able to add the following:

1. *Dr. W. S. Halsted's Case.*—B., aged twenty-two years, injured by glass. Degenerative reaction of muscles and complete loss of sensation in the regions supplied by the median and ulnar nerves at the time of the eighth month after the injury. Separation after paring off nerve-ends, about three inches. Neuro-

plastic suture of median and direct suture of the ulnar, with relaxation sutures in both. Strong flexion of hand and forearm, and still some tension. The wound healed by primary union. No benefit six months after the operation.

2. *By Dr. Weir.*—Wound of sciatic nerve nine years previously, operated on December, 1882; catgut sutures. By suturing adjacent tissues, and flexing knee forcibly, approximation was obtained. No improvement in motility, but gain in general sensation, and great improvement in trophic changes, which had advanced to ulceration. The ulcers all healed and local nutrition generally improved.

3. *A Case operated on by Dr. W. T. Bull in July, 1883.*—It was a case of wound of median and ulnar nerves with corresponding paralysis. The suture of both nerves with catgut was done about seven weeks after injury. Was discharged from the hospital about five weeks after operation, with both sensation and motility beginning to return, and improving daily.

4. *A Case reported by Dr. Roswell Park, of Chicago*, in which the radial was sutured with catgut sixteen days after its division. The recovery was rapid, the patient being considered well in six weeks.

5. *The case reported by me above*, of musculo-spiral suture forty-six days after wound. Catgut suture, recovery of sensation and motion, with a useful limb; daily improving.

6. *The case reported above* of suture of upper cord of brachial plexus, one hundred and thirty-one days after its division. Recovery of sensation and motion and nutritive condition, daily becoming more perfect.

Müller adds two cases, and Tillaux also two cases, making the whole number of secondary sutures reported forty-three.

These ten cases, added to Weissenstein's thirty-three, make in all forty-three cases. Of these, thirty-three were successes, in so far that sensibility and motility were at least partly recovered. In six cases no improvement, or almost none occurred, and in four cases the data were insufficient for statistical use. The dates of improvement can be given approximately thus: Traces of sensibility were noted in from two to four weeks. Traces of motility in from sixteen days to sixty, in two cases more than a year. Complete restoration of muscle function was marked in one case as occurring in twenty-six days; in several cases not till the lapse of one or even more years. All the authors seem to agree that electricity and massage greatly favored the return of function in the paralyzed parts. If now we consider that three quarters of all the reported cases were more or less successful, and still further consider that many of the cases were reported so soon after operation that the full results had not yet been realized, I think we are warranted in concluding that the proceeding promises a degree of success which we can count upon in very few of the operations which we are every day performing. When we take into account the serious and permanent disability for the cure of which the operation is recommended, the entire freedom from danger to life, no fatal case having been reported, and the large measure of success which has followed its performance, we are entitled, I think, to regard it as one of the best and most useful contributions that have been made to modern surgery.

RUPTURE OF THE UTERUS;

REPORT OF A CASE IN WHICH THE ENTIRE UTERINE CONTENTS AT FULL TERM ESCAPED, UNRUPTURED, INTO THE ABDOMINAL CAVITY.*

By FRANK W. ROSS, M. D.,
ELMIRA, N. Y.

The following is the report of a case which occurred in the practice of Dr. William Woodward, of Big Flats, Chemung County, N. Y.:

Mrs. ———, aged forty-two, native of the city of Poole, Dorsetshire, England; small in stature; weight, ninety pounds. She brought a letter from Dr. Philipott, of Poole, stating that her pelvis was unusually small, and so much contracted by the projection of the sacral prominence as to render the superior strait almost cordiform; that it was impossible for her to give birth to a living child at full term. Dr. Woodward was called to attend her in labor, July 8, 1882, soon after her arrival from England. He was told that she was advanced to the seventh month, which was evidently her condition. On examination, he found the pelvis contracted, leaving only a fissure on the left of the sacral promontory of about two inches in width, and an opening on the right side of about three inches and a half in diameter. The breech was presenting at the larger opening, and with some difficulty he succeeded in bringing down the feet and delivering, the cranial bones yielding to the pressure, being still soft and not yet ossified.

In the summer of 1883 she was again pregnant, the fœtus being expelled without assistance at about the seventh month.

In March, 1884, she announced to Dr. Woodward that she was again pregnant, about three months advanced, and was advised that premature labor must be induced unless she became relieved at an early period by a miscarriage. Two months later, she announced her determination to hazard going to full term, hoping to bear a living child. She was advised not to proceed, and was warned of the danger, but to no purpose. Her desire for a living child was so strong that she insisted on attempting to give birth to one if her life paid the forfeit, but agreed to send for aid on the first appearance of labor.

August 20, 1884, between 2 and 3 P. M., Dr. Woodward was sent for, and found his patient with the countenance pale, lips livid and exsanguine, and the surface of the body bathed in a cold perspiration. She had been taken with labor-pains at about 5 A. M.; and at 10 A. M. the pains were very severe, not like labor-pains, but tearing and constant. She had vomited frequently and flooded profusely. The pain was most excruciating, and she begged for a powder to relieve her suffering. Supposing that it was a case of placenta prævia, an examination was made *per vaginam*, but Dr. Woodward could reach neither the placenta nor any presenting part of the fœtus. At this time the hæmorrhage was slight; but within ten minutes after his arrival the patient was dead.

At the autopsy the following condition was found: The fœtus was lying in the peritoneal cavity upon the intestines, invested with the membranes intact, the placenta being still attached to the sac, all having escaped through the uterus and lying free in the abdominal cavity, the rupture having taken place at the placental site. On removing the child, a full-grown male, the fissure, about eight inches in length, could be seen along the anterior portion of the uterus, as can be readily noted by an examination of the specimen here presented. Considerable blood was found in the abdominal cavity, most of the hæmorrhage coming from the torn uterine sinuses at the point of rupture.

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* Read before the New York State Medical Association, November 19, 1884.

This was her tenth pregnancy.

This case is an instructive one; and I present it to the Association, not giving details of ætiology, pathology, or treatment, but simply to draw a few practical inferences which may be of value to some of us in the future and impress on our minds the fact that such accidents occur often when there is no deformity.

This remarkable case is of special value, aside from its rarity, it being the second ever recorded (the other by Hamilton) in which the entire contents of the uterus escaped, unruptured, into the abdominal cavity. It gives the typical symptoms of a ruptured uterus—viz., the sharp, agonizing, tearing pains, a sensation of something giving way, followed by a pain which is constant and unremitting, with the escape of blood through the vagina. The rupture being at the placental portion of the uterus, and large enough to permit the escape of the fœtus with the sac entire, may explain the *modus operandi* of a similar condition which has been observed a number of times, in which the fœtus escapes, at term, with the membranes intact, through the vagina.

This case illustrates the folly and danger of attempting to carry a child to full term in a pelvis which is known to be deformed, and in this instance it gives a sad example, with the terrible results of a fatal and criminal omission on the part of patient and friends, in neglecting to call medical aid; for in this case the woman survived the rupture four or five hours, and it was not until she was dying that aid was summoned. Without doubt, had the physician been called in time, he would have crushed the head and delivered; or, if the rupture had taken place while he was present, he could have easily recognized it, opened the abdomen at once, and delivered by Cæsarean section.

Although a ruptured uterus is a rare condition, it is an accident which may occur in the practice of any one of us, even when we least expect it, at the most inopportune time and place, as in this case, in a little country town, in the practice of a man who has spent over a half-century in the practice of medicine, with a vast number of obstetrical cases, and yet this accident occurs to him but once and at this late day; while in the practice of the youngest of us it may occur at our next case. When the accident does occur, the symptoms as a rule are well marked. In the present advanced condition of abdominal surgery, we should be prepared to open the abdomen at once and deliver, with reasonable hope of success.

THE CHOLERA EPIDEMIC OF 1862 IN BATURITÉ.

By F. J. B. CORDEIRO, M. D.,
ASSISTANT SURGEON, UNITED STATES NAVY.

In 1862 a severe cholera epidemic visited Brazil, raging with a special fury in the northern provinces. The history of the epidemic in the province of Ceará is especially interesting, as some of the factors found there approximate to the conditions of a perfectly controlled experiment. The town of Ceará, the capital of the province of the same name, is on the coast, and contained, at that time, a population of about twenty thousand. The town is laid out in regular squares, and is clean and well drained. The soil consists of a loose white sand. A short distance inland the country becomes mountainous. Baturité is a small town in the mountains, sixty miles direct from Ceará. It is built on a plain surrounded on all sides by high hills. In one direction only is there a break, where the road comes in from Ceará and a small stream flows out. With a strange disregard of sanitation, many of the people were in the habit of using this stream for their drinking fountain, their baths, etc., and naturally, from the conformation of the country, it was their sewer also. The soil is a loose loam of a rich red color, the same as is seen around Rio, and supports a luxuriant vegetation.

The contrast between Ceará and Baturité is as great as can reasonably be imagined. One is a well-drained, well-ventilated town, its streets sloping down to the ocean and swept by the sea-breezes; the other draining into a stream with an insufficient outflow, and feeling only the upward and downward currents of the heated or cooled atmosphere. A sanitary engineer standing in that basin could not but instinctively query: "I wonder what the effect of an epidemic would be here."

The epidemic came in July, 1862. As early as the latter part of May, physicians had been stationed by the Brazilian Government at different points to care for the poorer classes. One was stationed at Baturité, which contained then about five thousand inhabitants. In June, cholera appeared at some of the seaport towns, noticeably at Ceará. The cases here were neither many nor severe, hardly partaking of the characters of an epidemic. From Ceará the cholera traveled up the direct road to Baturité. Its progress was of the nature of a march, slow but steady. Village after village, hamlet after hamlet, was attacked, until at last it reached Baturité, the terminus of the road.

I quote, by permission, from a letter from a lady who was at that time in Baturité:

"On the 4th of July we had two Americans—a gentleman and his wife—from New Orleans, as our guests at dinner, to celebrate the anniversary of our national independence. We sat afterward on the veranda, chatting, drinking our coffee, and inhaling the fragrant fumes of cigar-smoke, wondering which of us four would be the first victim. For we knew that we could not escape the dread visitor speeding on toward us. B. said he was certain he should be one, as from the first news of its reaching Ceará he felt he was doomed. We tried to laugh him out of this fancy. . . . Almost immediately after that pleasant celebration it did indeed come; for it had walked regularly up the street till it arrived at the house next to us, and laid two prostrate."

In one week after, the government physician was dead. The wealthiest people, and all who could get away, fled the country. The remaining ignorant and panic-stricken inhabitants tried other means of escape. Written prayers to God and the Virgin for help were pasted up everywhere. The principal street was dug up deeply, others were plowed up.

Every evening there were processions, clothed in white, carrying heavy stones on their heads for penance, to the church. Arrived at the sacred edifice, they filled the air with wailing shrieks for mercy. I quote again: "Worse than all came the sound of self-inflicted flagellations, with a scourge on their bare shoulders, till the very walls were spattered with blood. Then they dragged their exhausted, bleeding bodies home, making night hideous and sleep impossible." As the neighboring countrymen failed to bring in the necessary supplies, from fear of infection, famine was added to the epidemic. The daily death-rate at first was eight or ten, but this afterward increased to a hundred and over. Many lay unburied for a long time where they had died. The sick heard the creaking of the dead-cart all night. It was afterward remarked that the cholera at Baturité ceased simply from lack of material. The epidemic had pretty generally disappeared throughout the northern provinces by November and December of the same year.

The attack was in almost every case preceded by diarrhœa, and, from the outset of actual symptoms to death, averaged sixteen to twenty hours. Post-mortem spasms were frequently remarked, leading the common people to suppose that in some instances the victims had been buried alive. It was generally believed in Brazil that the epidemic had come from Europe, though I have been unable to discover from what particular point the Brazilian epidemic started.

THE STING OF A SCORPION.

By B. F. HAYWARD, M.D., Holyoke, Mass.,

SURGEON OF THE STEAMSHIP CITY OF PUEBLA.

The sting of a scorpion has been regarded by the laity at large and some of the profession as being necessarily fatal. But I had the opportunity a few months since of treating a case which proved to be contrary to the general impression. The case is as follows:

The stewardess on board one of the Southern steamers was stung on the little toe of the left foot. Five minutes after it occurred I had the patient under treatment. On examination, I found a white surface of about the size of a half-dime. In the center was a little red spot, which seemed to penetrate to the bone. At first there was pain, accompanied by swelling of the foot and ankle. She complained of dullness extending first to the ankle, thence to the knee, and afterward to the hip. The limb was cold, and of a dark color, the circulation being impaired, and it seemed to me as though the blood coagulated in the veins. The pulse was rapid and feeble, the patient restless and fretful, the face pale, with dark lines under the eyes. In a few moments there was a red streak which commenced at the little toe and gradually extended to the hip.

I made a cross-incision over the seat of the wound down to the bone, and allowed it to bleed freely, and then applied hot flaxseed poultices.

Internally, I gave whisky and the aromatic spirits of ammonia in the proportion of two thirds and one third, giving ʒ iv every fifteen minutes until the patient had taken ℥ vii, and then, as the stimulants commenced to have effect, it was decreased gradually. The next morning the only symptom present was the numbness and heaviness of the entire limb, which disappeared during the day.

I have made inquiries among the natives along the Gulf-coast of Mexico, and have been unable to learn of an authentic case of death from a similar occurrence.

Book Notices.

A Text-book of Practical Medicine, designed for the use of Students and Practitioners of Medicine. By Alfred L. Loomis, M. D., LL. D., Professor of Pathology and Practical Medicine in the Medical Department of the University of the City of New York, Visiting Physician to Bellevue Hospital, etc. With Two Hundred and Eleven Illustrations. New York: William Wood & Co., 1884. Pp. xv–1,102.

Dr. Loomis's reputation as a lecturer has prepared his readers for a book in which some concessions should be made to that class who desire an "interesting" treatise on medicine. Without regard to anything but the presentation of facts in a clear and concise form, the author has written a text-book *par excellence*. From the preface to the closing sentence the work is a model of compactness; it is the product of an extended experience—an experience not to be inferred from the frequent intrusion of the pronoun "I" into the text, but from the admirable generalizations which can be the outgrowth only of a ripe and mature mind.

With a self-control seldom possessed by writers of his reputation, Dr. Loomis sinks his personality, though never his originality, in his theme. Keeping ever before him the class of readers for whom his work is intended, he seldom turns aside from his course to pursue tempting digressions such as might display his own erudition to better advantage. We feel all the time that he knows a good deal more than he is telling us, and therein he differs from men who, in their desire to prove their experience, wander off into details which are useless alike to the student and to the practitioner.

We commend the preface as a model of clearness and brevity; it covers the whole ground, and, when the author has finished what he has to say, he stops.

The general arrangement of the book is somewhat different from that of the popular text-books. In our opinion, it is a good one.

Beginning with diseases of the respiratory organs, the student next considers diseases of the digestive system; in Section III he studies affections of the heart and kidneys; in Sections IV and V, acute and chronic general diseases; while in the concluding section he enters upon the most difficult study of all—that of diseases of the nervous system. This seems to be a very rational order from the student's standpoint, since he is led on gradually from a subject of less to one of greater abstruseness, so that he does not meet with such an abrupt transition as he would if he passed at once from bronchitis to myelitis.

Another novel feature of the book is the presence of numerous illustrations, an idea derived from the author's experience in the lecture-room. The drawings have been carefully executed and are nearly all original, and, moreover, the woodcuts show finer work than we are accustomed to see in medical books. Before discussing each chapter of the work separately, it may be interesting to note the system which is rigidly adhered to in the treatment of every subject. A brief definition is given of each disease, the ordinary synonyms being mentioned. The main features of the morbid anatomy are next mentioned, following which is a short paragraph on ætiology. The symptoms, physical signs, and differential diagnosis come next, then the prognosis, and lastly a section on treatment. This systematic distribution of the topics, as well as the care which is observed in order that each paragraph may be distinct in itself, will render the work valuable for purposes of recitation.

Unlike most writers upon such a broad subject as general medicine, Dr. Loomis enters at once upon the discussion of diseases of the respiratory organs, after a brief description of the phenomena of inflammation. Other points in general pathology are considered as they occur in the course of the lectures.

Of the topics mentioned in Section I, acute lobar pneumonia receives the most extended notice. The pathology of this important affection is given briefly and to the point; the symptomatology is as graphic as it is accurate. In connection with the subject of phthisis, the author takes occasion to refer judiciously to the *Bacillus tuberculosis*.

Section II is rendered particularly attractive by the beautiful illustrations which accompany it. We can not but admire the clearness with which the diseases of the alimentary tract are differentiated. The pages describing peritonitis are highly instructive. Diseases of the liver are thoroughly studied, and in this connection many valuable hints are offered on palpation of the abdomen.

Dr. Loomis gives the affections of the heart "in a nut-shell"; we have seldom seen so much matter condensed within such a small space. The remarks on cardiac hypertrophy and dilatation are worthy of careful perusal on the part of practitioners as well as students. From our knowledge of the author's extensive experience, we should expect an exhaustive study of the subject of aneurysms, and we are not disappointed. We shall not comment upon his treatment of renal affections, as the profession are already familiar with a previous work by him upon the same subject. The paragraphs upon diagnosis and therapeusis will be found to be specially valuable.

The section upon acute general diseases opens with an exhaustive chapter on typhoid fever, from which nothing of importance has been omitted. Diphtheria, yellow fever, and cholera are very fully treated of, but we miss any allusion to the comma bacillus in the latter chapter. Typhus receives more attention than is usually bestowed upon it in general text-books, a fact due to the personal interest which the author feels in that disease. In speaking of the treatment, he makes one of the digressions in which he rarely indulges, and refers to some observations of his own, as a result of which he decided that stimulants were to be used in typhus rarely and with great caution.

The author's descriptions of small-pox and scarlet fever are quite vivid. Fifty pages are devoted to the different forms of malarial fevers.

The last section, upon nervous diseases, is a very valuable one, enriched as it is by several excellent woodcuts. We believe that Dr. Loomis has succeeded in presenting the obscure subject of cerebral lesions in as clear a form as the student can ever expect to find it in books. We do not mean that he has gone exhaustively into the matter, but he has given the most important facts with great brevity and perspicuity. As an example, we refer to the two pages on cerebral localization (pp. 970 and 971). The paragraphs upon diseases of the spinal cord are brief, but they contain quite enough for the student, and, moreover, they cover the whole ground. A number of affections are included under the head of functional nervous diseases, epilepsy, hysteria, neuralgia, and sunstroke receiving most attention.

It is impossible within a brief space to do justice to the individual excellences of this book. In order to value it aright one must read it for himself. Its terse style, its practical, business-like air, can only be appreciated by a personal inspection. As a text-book it is admirable. We predict for it a future, not as a great and original work, but as the outgrowth of years of patient toil, as the legacy of a brilliant teacher.

BOOKS AND PAMPHLETS RECEIVED.

Topographical Anatomy of the Brain. By J. C. Dalton, M. D., Professor Emeritus of Physiology in the College of Physicians and Surgeons, New York, and President of the College. Philadelphia: Lea Brothers & Co., 1885. Three Volumes: 4to, pp. vi–56; iv–59 to 114, inclusive; iv–115 to 175, inclusive; heliotype plates.

Cases of Disease of the Frontal Sinus. By Charles J. Kip. M. D., Newark, N. J. [Reprint from the "Transactions of the American Ophthalmological Society."]

Weitere Untersuchungen über die Natur und Wirkung der Oleate. Von John V. Shoemaker, A. M., M. D., in Philadelphia. [Reprint from the "Monatshefte für praktische Dermatologie."]

Transactions of the American Ophthalmological Society, 1884.

Proceedings of the Philadelphia County Medical Society, Vol. VI, September, 1883, to June, 1884.

The Jenner of America. An address delivered before the Philadelphia County Medical Society, January 14, 1885. By W. M. Welch, M. D., Retiring President. [Reprinted from the "Proceedings of the Society."]

Eighth Annual Report of the Board of Health of the State of New Jersey, 1884, and Report of the Bureau of Vital Statistics.

Notes on the History, Manufacture, Uses, and Properties of Hydrochlorate of Cocaine. Published by McKesson & Robbins, New York.

Facts about Canned Goods. Submitted to the Committee on Trades and Manufactures, of the New York Assembly, by the Canned Goods Committee of the New York Mercantile Exchange, etc. February 4, 1885.

Correspondence.

LETTER FROM WASHINGTON.

Charitable Appropriations by Congress.—Candidates for Medical Appointments.

Washington, *March 9, 1885.*

Among the appropriations by the late Congress are those giving $15,000 for the care of non-resident sick poor in the Providence Hospital, $7,500 for the Garfield Hospital, $15,000 for the Columbia Lying-in Hospital, $5,000 for the Children's Hospital, $15,000 for the erection of a homœopathic hospital, and $40 a month, each, for the physicians to the poor. The National Board of Health gets $5,000, and the Senate struck out from the Sundry Civil Bill the provision doing away with the board, and authorized the payment of the expenses incurred by it last year.

Office-seeking is not confined to mere politicians; among matters of interest to medical men in this respect is a petition circulating in several cities, praying for the appointment of Dr. A. N. Bell, of New York, as Surgeon-General of the Marine-Hospital Service, to supersede Dr. John B. Hamilton, who was appointed six years ago from among the corps of surgeons of the service. In the District, the health office seems more generally sought after. Dr. C. M. Hammett, Dr. H. H. Barker, Dr. Allen, and others are mentioned as among the candidates. The present incumbent is Dr. Smith Townshend.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

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Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, MARCH 14, 1885.

THE MEDICAL JOURNAL AS AN EDUCATOR.

We have heard much of late concerning the necessity of higher medical education in this country. So oft-repeated and so persistent have been the protests against the methods in vogue, that many Americans have begun to regard all their medical colleges as fit ground for missionary work. While all this has been going on, more or less extensive improvements have been inaugurated in the prominent institutions at least; so that at the present day the schools in the large cities afford every reasonable facility for practical instruction.

And yet there is a vague feeling that the schools are not accomplishing that which the highest interests of scientific medicine demand. There are practical good fellows in plenty; but there is a lack of "sacred fire"; original research does not advance with that rapidity which the advocates of the new educational system had been led to anticipate. This is true, at least, in so far as the work accomplished within the precincts of the college and its dependencies is concerned. To this accusation it may be answered that little of an original or scientific character can reasonably be expected from those who are yet barely upon the threshold of acquisition. Just here lies the fallacy. There is no more egregious misconception than that which lends countenance to a system that deals solely with the memory to the exclusion of the reasoning and imaginative faculties—those attributes which are the very corner-stone of original research. True, the faculty of memory plays, of necessity, a leading part during the acquisitive period of education; but the need of counteracting the mental automatism thereby engendered is all the more evident, and admits of no postponement. But is the realization of these psychological demands, necessary though they be, within the range of practical possibility? We reply, not only that the problem is capable of solution, but that it has actually been solved, at least as far as German medical institutions are concerned, and that in the simplest manner. In the schools of that country the student is initiated into the hidden charms of original laboratory and clinical work long before he graduates, and, as a result, he enters upon the practice of his profession not as a shoemaker's apprentice upon the exercise of his trade, but with lofty conceptions of the possibilities of his calling both as a science and as a profession.

To this fact is due the enormous literary expression of medical thought in Germany to-day; and let it not be forgotten that the progressive tendencies of any science are discernible in the copiousness of its literature. Hence the interest in American medicine abroad is only co-extensive with the recently developed activity in medical literature throughout the United States. And what has that literature done for us, from an educational point of view, irrespective of its intrinsic scientific merits, which are undoubted?

To our own mind, the great distinctive service of American medical journalism consists in this, that it has counteracted the pedantry sown in the schools, as far as it has been able, and encouraged the expression of original thought in young men. This of itself is enough to commend it to the lasting gratitude of the profession. If any one doubts that the medical journals constitute the cradle of rising thought in the American profession to-day, let him compare the lists of contributors to the same, with their ages as expressed by the time of graduation. More than one of these young gentlemen has added two or three volumes, besides thirty or forty articles, to medical literature before the age of one and thirty. This of itself is most gratifying; and it is but right to state that it is in great measure due to the independent exertions of the medical editors themselves, whose practiced eyes are accustomed to discern promising material where it was least expected. Many a flower of journalism, apparently doomed "to blush unseen," has been discovered in this way, as the testimony of any medical editor of prominence will amply bear witness.

Nor have these good offices been by any means confined to isolated instances, for the example has been contagious, and the precepts of the few have been gradually followed by the many. There is no encouragement to endeavor at all comparable to the "printed word"; nor is there any means of mental development at all equal to the systematic and conscientious use of the pen, as the professional histories of those who have thus used it abundantly testify.

Our advice to any young man of parts and ambition who would take his professional destiny into his own hands is, think and write.

THE INTRAFUSION OF SALT SOLUTION.

There are few operations which have been more frequently recommended and less frequently practiced than transfusion. Every writer upon surgery and obstetrics feels constrained to describe the process, yet rather from a sense of duty than because he considers that he is actually dealing with a matter of practical interest. Dr. Lusk, with a frankness which is worthy of imitation, acknowledges that, although he carries the necessary apparatus about with him, he has never reached the point at which he cared to test it. If the truth were known, very few of the authors who have said most about transfusion are able to present many positive results from their own experience. Just as the younger generation of medical men have only a theoretical acquaintance with the operation of phlebotomy, the profession at large are entirely ignorant of the technique of transfusion, except as they may have seen in their early hospital career a few crude attempts at restoring moribund patients. The fact is that, when a man does meet with just the sort of case in which he has always imagined that he would "try transfusion," he does not care to try it. Whether this timidity arises from a fear of the possible dangers of the operation—thrombosis, the entrance of air into the veins, or other phenomena which have been so graphically pictured by pathologists—or from an ignorance of its details, certain it is that surgeons who are bold enough on other occasions shrink from this simple procedure.

We can not analyze this feeling entirely. It is doubtless to some extent a dislike of troubling a patient when *in extremis;* the supposed necessity for elaborate preparations deters others. Dr. Lusk is frank enough to say: "In the few cases where I had intended to use it, the tubing was never in perfect order." Without doubt the idea of removing blood from another subject and subjecting it to a rather complicated preparation has been the great stumbling-block to the general use of transfusion. Dr. Thomas, with his characteristic boldness and ingenuity, has advocated the use of fresh milk, and greatly simplified the operation by recommending as the only apparatus necessary an ordinary glass funnel to which is attached a rubber tube terminating in a delicate cannula. It is interesting to note that his device is the one which has recently been employed successfully on the continent of Europe to the exclusion of the more complicated instruments.

The Germans have always been deeply interested in the subject of transfusion, as may be inferred from Landois's monograph, written ten years ago. He reports three hundred and fifty cases in which human blood was used, over one third of which were successful. It is safe to say that during the past decade his countrymen have made the principal additions to our knowledge of this matter. Few general readers realize the extent to which the intrafusion of a solution of common salt has been practiced by German surgeons, or the immense importance of the discovery that this fluid not only possesses the same advantages as blood, but is even superior to it. The method is not founded upon pure empiricism, but upon the soundest physiological basis, and it deserves more serious consideration in America than it has hitherto received. We have perhaps been prejudiced against the intra-venous injections of salt solution by the fact that they were widely employed by the French physicians during the recent cholera epidemic, and often with a negative result. But injections practiced during the collapse stage of cholera, and those which are resorted to in acute anæmia following hæmorrhage, should not be compared, since the conditions are dissimilar. It is in the latter class of cases that the method finds its true application.

Professor Mikulicz, who is a warm advocate of the operation, contributes an article to a recent number of the "Wiener Klinik," in which he states that he has obtained brilliant results from the injection of 600 centimetres of a solution of salt, the apparatus being hastily improvised with a glass funnel, a piece of rubber tubing, and a small trocar. He urges the injection of a larger amount of fluid than is usually employed in England and America, even as much as a litre. The operation should occupy from ten to fifteen minutes. He uses six parts of salt and one part of carbonate of sodium to one thousand parts of water.

We have not referred either to the technique of the procedure or to the indications. These are self-evident. To recognize when a patient is in a critical condition, to expose one of the veins at the bend of the elbow, and to insert into it a cannula, a glass tube, a quill—surely the average practitioner can be credited with enough sagacity and coolness to do this. There is a great deal said about the after-treatment of hæmorrhage, but the fact is that many men stand and watch a patient slipping away from them, just out of pure helplessness. We hope to see the intrafusion of salt solution practiced extensively. It does not seem likely to do harm, and it is now proved beyond a doubt that it is a powerful agent for good when properly employed. Let us not regard this operation as a mere curiosity, or as one to be practiced upon an individual *in articulo;* it should become a recognized and legitimate procedure, and take precedence of the reprehensible and unscientific method of trying to refill the empty vessels of a patient by administering hypodermics of brandy or ether, and the more dangerous practice of injecting ammonia into the veins. It is time that the operation should be removed from the realm of the novelist, and become a practical entity.

MINOR PARAGRAPHS.

THE CONDITION OF THE BLOOD IN CHOLERA.

M. Hayem, whose studies of the blood have been so extended as to render him a weighty authority upon this subject, publishes in a recent number of the "Gazette hebdomadaire de médecine et de chirurgie" some interesting observations made by him at the time of the cholera epidemic. During the algid stage he found that the blood was poor in plasma, but that the red corpuscles presented a normal appearance under the microscope, and collected as usual in *rouleaux;* the white corpuscles were more numerous than normally. The blood coagulated at the expiration of fifteen minutes. During the stage of reaction it returned rapidly to its healthy condition. As regards the number of the elements, M. Hayem found that during the period of collapse the red discs sometimes increased to 6,500,000 to the cubic millimetre, a condition that he estimates as representing a loss of water equal to 1·15 kilogramme, the whole amount of blood in the body being considered as five kilogrammes.

The effects of intrafusion are worth mentioning. In the cases in which the operation was successful the blood remained as thick as before; in the unsuccessful cases, on the contrary, the fluid injected was not absorbed from the vessels, but mingled with the blood, diluting it to such an extent that only 4,000,000 red corpuscles were counted. After the operation, coagulation occurred with the usual rapidity. Throughout the stage of collapse the reaction of the blood was slightly acid; this phenomenon, however, was not constant. M. Hayem failed to find micro-organisms in the blood, after repeated search.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 10, 1885:

DISEASES.	Week ending Mar. 3.		Week ending Mar. 10.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid Fever	4	2	7	2
Scarlet Fever	103	12	86	21
Cerebro-spinal meningitis	2	2	4	2
Measles	171	29	191	24
Diphtheria	58	25	46	21

Bellevue Hospital Medical College.—The twenty-fourth annual commencement was held at the Metropolitan Opera House on Monday evening, the 9th inst. The degree of doctor in medicine was conferred upon one hundred and thirty-four gentlemen. The honor men, mentioned in the order of their merit, were as follows: Sollace Mitchell, of Florida; Lewis Mann Silver, of New York; Thomas Jackson Charlton, Jr., of Georgia; George Garmany Larcombe, of Georgia; John Purdue Gray, Jr., of New York; Leonard Sigmund Rau, of New York; Patrick Samuel Keogh, of California; and Samuel Case Jones, of New York. Remarks were made by the Hon. William Dorsheimer, and Mr. Andrew Carnegie, of the Board of Trustees, gave the address to the graduating class. The hearty "'rah, 'rah, 'rah, Andrew Carnegie," pronounced by the members of the class, standing, at the opening and close of Mr. Carnegie's address, showed their appreciation of that gentleman's substantial contribution to the teaching facilities of their alma mater and, indirectly, to our educational resources in general.

The Albany Medical College held its fifty-third annual commencement on Wednesday, the 4th inst., at the Leland Opera House. The graduating class numbered thirty-three—all from the States of New York and Massachusetts. The twelfth annual meeting of the Association of the Alumni was held the same day, and the first and second of Professor William H. Thomson's lectures on the germ theory of disease were delivered.

The New York County Medical Association.—At the next meeting, to be held Monday evening, the 16th inst., Dr. John Shrady will read a paper on "The Ætiology of Stillbirth," and Dr. Charles A. Doremus will show a new apparatus for the determination of the quantity of urea in the urine.

The Medical Department of the University of the City of New York.—The forty-fourth annual commencement was held at the Academy of Music on Tuesday evening, the 10th inst., when a class of one hundred and seventy-eight was graduated. The Rev. Dr. Hall delivered the address to the graduating class. Prizes were awarded to W. B. Waterman, G. K. Meynen, J. C. Edgar, R. H. Wylie, A. W. Berle, E. F. Arnold, F. A. Rand, C. H. Gardner, and J. C. Clark, and honorable mention was made of J. C. Edgar, A. W. Berle, F. M. Nichols, F. S. Halsey, H. Vreeland, E. F. Arnold, W. J. Schuyler, M. L. Young, R. H. Wylie, F. A. Rand, R. T. Sloan, E. P. Covington, E. T. Steadman, S. B. Lynch, J. B. Peters, W. D. Garrett, D. E. Walker, C. H. Gardner, J. J. Baxter, and J. M. Swan.

The American Veterinary College.—The tenth annual commencement was held at Chickering Hall on the 4th inst., when a class of thirty-one gentlemen was graduated. Prizes were awarded as follows: the Trustees' gold medal to H. T. Yokura, of Japan; the New York State Veterinary Society's gold medal to J. W. Scheibler, of Tennessee; the Alumni Association prizes to J. P. Wilson, of Ohio, and R. E. Buckley.

The late Dr. Louis Elsberg.—At a stated meeting of the Philadelphia Laryngological Society, held February 27, 1885, Dr. J. Solis-Cohen having announced the death of Professor Louis Elsberg, M. D., of New York, it was, on motion,

Resolved, That the Philadelphia Laryngological Society learn with deep sorrow of the early demise of the pioneer laryngologist of America, for whom they have ever entertained the highest respect as one of its most enthusiastic and brilliant exponents.

Resolved, That American laryngology is indebted in great measure to the example of the deceased for the high standard which it has attained as a leading specialty in medical science and medical practice.

Resolved, That copies of these resolutions be transmitted to the family of the deceased in evidence of our deep sympathy.

[Signed] Louis Jurist, *Secretary.*
Charles E. Sajous, *President.*

The College of Pharmacy, of the City of New York, will hold its fifty-fifth commencement at Steinway Hall on Tuesday evening, the 17th inst., at 7.45 P. M. An address will be delivered by the Rev. Robert Collyer, D. D.

A Woman's Hospital for Iowa is advocated in an able manner by Dr. J. W. Smith, of Charles City, in the February number of the "Iowa State Medical Reporter."

The College of Physicians and Surgeons, of Baltimore, held its annual commencement on Friday, the 13th inst., and graduated a class of one hundred and fifty-four.

The Death of Dr. Caleb Swan, of Taunton, Mass., took place suddenly on the 6th inst. Dr. Swan was a graduate of the College of Physicians and Surgeons of New York, of about ten years' standing. For eight years he had had a large practice in Taunton, where his many fine qualities as a man and a physician caused him to be held in high esteem.

The Death of Dr. Nathaniel Ford, of Brooklyn, occurred on Monday, the 9th inst. He was a graduate of the Medical School of Maine, of the class of 1836, and was one of the oldest members of the Medical Society of the County of Kings.

The Death of Dr. Ellerslie Wallace, formerly professor of obstetrics in the Jefferson Medical College, took place in Philadelphia on Monday, the 9th inst., as the result of a long and painful illness.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 1, 1885, to March 7, 1885:*

Byrne, Charles C., Major and Surgeon. Ordered to Department of the East on expiration of his present leave of absence. S. O. 50, A. G. O., March 3, 1885.

Woodruff, Ezra, Captain and Assistant Surgeon. Ordered for duty at Fort Maginnis, Montana Territory. S. O. 23, Department of Dakota, February 25, 1885.

Porter, J. Y., Captain and Assistant Surgeon. Sick leave of absence further extended fourteen days on account of sickness. S. O. 51, A. G. O., March 5, 1885.

Ewing, C. B., First Lieutenant and Assistant Surgeon. Having relinquished unexpired portion of leave of absence, ordered for temporary duty in the field. S. O. 23, Department of the Missouri, March 2, 1885.

Raymond, Henry I., First Lieutenant and Assistant Surgeon (recently appointed). Ordered for duty in Department of California. S. O. 50, A. G. O., March 3, 1885.

Society Meetings for the Coming Week:

Monday, *March 16th:* New York County Medical Association; New York Academy of Sciences (Section in Geology and Mineralogy); Medico-Chirurgical Society of German Physicians, New York; Hartford, Conn., City Medical Association.

Tuesday, *March 17th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings, N. Y.; Ogdensburg, N. Y., Medical Association.

Wednesday, *March 18th:* Northwestern Medical and Surgical Society, New York (private); Medical Society of the County of Allegany, N. Y.; New Jersey Academy of Medicine (Newark).

Thursday, *March 19th:* New York Academy of Medicine;

Roman Medical Society, New York (private); New Bedford, Mass., Society for Medical Improvement (private).

Saturday, *March 21st:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

Letters to the Editor.

PUERPERAL PERITONITIS.

498 Classon Avenue, Brooklyn.

To the Editor of the New York Medical Journal:

Sir: Apropos of the discussion that has taken place during the past few months in regard to the treatment of lying-in fevers, I would bring to the notice of the profession the subjoined case as a sample of the method which, at my hands, produces excellent results: I was called to see Mrs. M., November 4th; found she had been delivered of a dead child by a midwife on the second day of the month. I was informed that on the morning of the 3d she was taken with a chill, followed by fever and pain. On examination, I found pulse 120, temperature 104·5°, lochia extremely offensive, great tenderness over the right broad ligament, accompanied with severe pelvic pain, nausea, and extreme restlessness. I immediately gave her ten grains of calomel, and followed it in three hours with two ounces of castor-oil; over the abdomen was applied a turpentine stupe. On calling ten hours afterward, I found that her bowels had been very freely moved, the pain greatly lessened, and her general condition much improved. I then ordered her to take one eighth of a grain of morphine and two grains of quinine every three hours. This was continued for three days; then five grains of calomel were given, followed in the evening by a bottle of citrate of magnesium. Free movement of the bowels took place. Bisulphate of quinine was given for a day or two, when the patient was dismissed cured.

Having had a number of cases that I have treated in this way to the exclusion of injections, and the early use of morphine, I can but feel that calomel plays an important part in modifying and arresting this form of sickness; that it also has sedative properties seems to be amply proved.

Very respectfully,
S. B. Childs, M. D.

ELECTROLYSIS IN UTERINE FIBROIDS.

20 West Forty-fifth Street, *March 7, 1885.*

To the Editor of the New York Medical Journal:

Sir: Permit me to correct an omission in Dr. J. N. Freeman's report of my remarks to him on electrolysis as a cure for uterine fibroids, published, with the discussion before the Kings County Medical Society, in your issue of to-day. This omission consists of only one word, and was, of course, unintentional on the part of Dr. Freeman; but it gave one of the members of the society, who opened the discussion on Dr. Freeman's paper, the opportunity to make some unnecessary criticisms on my memory or editorial customs, and, I think, calls for rectification.

Dr. Freeman quotes me as having said to him, when asked what I thought of electrolysis in the case of fibroid tumor he brought to me: "I have never heard of a successful case." He accidentally omitted the word "authentic" before "successful." I remember saying that I had little faith in the method, as I knew of no absolutely authentic cases on record. Those published by Cutter, in 1876, had appeared in abstract in the "Journal of Obstetrics," and were therefore perfectly familiar to me, but I was under the impression that the permanency of the cure in these cases lacked confirmation.

I have notes of the case of the lady whom Dr. Freeman brought to me on April 28, 1884, and feel that, if a tumor of that size can be entirely dispersed by electrolytic puncture, the method deserves trial in many cases which now are either not treated or benefited at all, or are subjected to laparotomy. I have two cases in the hospital now in which I propose to try it, and will report results in due time.

Yours truly,
Paul F. Mundé.

Proceedings of Societies.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Meeting of March 3, 1885.

The President, Dr. F. W. Bartlett, in the Chair;
Dr. Frank H. Potter, Secretary.

Extra-uterine Pregnancy.—Dr. Matthew D. Mann read a paper on this subject, reporting four cases, with the treatment and results. He prefaced these cases with a brief *résumé* of the symptoms leading to the diagnosis of this condition. These were, of course, the symptoms of an ordinary pregnancy, including the mammary and gastric signs. Particular importance must be given to the changes in the mammæ, as in the majority of cases they were among the most reliable symptoms, if the pregnancy had advanced far enough. Besides these, as was mentioned by other writers, there were irregular gushes of blood, accompanied by portions of membranes, or, as he himself had seen, a complete uterine decidua, much hypertrophied and thickened. With the microscope we could distinguish this from the menstrual decidua. Then there was pain, either fixed and grinding in the iliac fossæ, or of a sudden, paroxysmal character, of the severest kind and accompanied by symptoms of shock. Quite rarely there were symptoms of abortion without the expulsion of a fœtus. Again, in a small proportion of cases, there were no premonitory symptoms, the first indication of anything wrong being shock, collapse, and sudden death. The physical signs were, commonly: 1. Increased size of the uterus, but not in proportion to the supposed stage of the pregnancy. This increase in size was thought by some to be proportionate to the nearness of the sac to the uterus, the increase being greater in the tubal than in the abdominal variety. 2. Evidence of the emptiness of the uterus by the passage of the sound or a finger. 3. The presence on one side of or behind the uterus of a cystic tumor, generally smooth in outline, somewhat tender, and obscurely fluctuating. With these signs and symptoms clearly in mind, a diagnosis, in the majority of cases, could be made with certainty. And, moreover, when the diagnosis could be made early, treatment could be applied with a reasonable assurance of success. He then reported in detail three cases of extra-uterine pregnancy which had been successfully treated by the application of the electric current. The diagnosis in each case was made early, in accordance with the above-mentioned principles. The faradaic current was used. This was passed through the tumor daily, and was continued for a week or more, according to indications. Each patient made a satisfactory and complete recovery.

The fourth case, not having had so favorable a termination, was reported more at length. It occurred in the practice of Dr. Diehl, of Buffalo. The patient was forty-two years of age. She had had one child eighteen years before, but no miscarriages. Dr. Diehl first saw her on October 7, 1883, on account of excessive bleeding from the uterus. This was controlled after a time with ergot. On January 4, 1884, he was compelled to use a catheter on account of retention of urine. In the mean time she had menstruated, but at irregular intervals, and had occasionally complained of severe pain in the lower extremities and in the bowels. On April 1st a tumor was discovered in the left lower portion of the abdomen. Dr. Mann saw her on the 10th, when the tumor was found extending nearly to the umbilicus and situated entirely to the left of the median line. Fœtal life was easily detected. Extra-uterine pregnancy was considered probable, but, as she insisted that she had carried her first child in the same situation, it was doubtful whether it might not be a pregnancy in the left horn of a uterus unicornis or bicornis. For this reason the uterine cavity was not explored. From this time until the 1st of August she continued to do well, only suffering occasional pain, not severe. On the latter date, as the end of pregnancy was so near, and as but little harm would result from a premature labor, it was determined to examine the uterine cavity. This was found to be enlarged but empty. Pregnancy was now so far advanced that it seemed best to await the false labor, which usually occurs in these cases, and the death of the child before operating. Fœtal life ceased to manifest itself about the latter part of August, the cessation being preceded by pains simulating those of labor. She continued to do very well, however, no urgency occurring in the symptoms until the night of the 24th of September, when, as she was straining at stool, she was taken with severe pain, accompanied with the sensation of something giving way. When Dr. Diehl saw her, early in the morning, she was in a state of collapse. Dr. Mann was hastily summoned and operated at 10 A. M., assisted by Dr. Diehl, Dr. Rochester, Dr. Philips, and Dr. Bartow. Before the operation the patient was conscious and hopeful. The peritoneal cavity was found filled with a thin purulent fluid, which was first removed. The fœtus was then removed, the cavity washed out thoroughly with antiseptic solutions, and the wound closed. The patient failed rapidly during the operation, and died soon after it was completed. The autopsy revealed a large sac external to the uterus and attached to it and to the rectum. The appearances indicated that the sac was the enlarged and hypertrophied oviduct of the left side. The uterus contained a decidua somewhat thicker than normal. From the study of these cases and those reported by other writers, Dr. Mann then formulated the following considerations for the treatment of extra-uterine pregnancy: 1. If the case was not seen until the alarming symptoms attending rupture of the sac have been developed, laparotomy must be performed without delay. Mr. Lawson Tait's four successes out of five cases must encourage us to follow his example. 2. If the pregnancy was discovered before the fourth month, the indication was to destroy the fœtus and trust to nature for its absorption. All other plans for accomplishing this purpose must be laid aside in view of the safe and easy method offered in the application of the electric current. This might be in the form of the interrupted galvanic or the faradaic current, the latter being considered the most reliable. It should be used daily, as strong as could be borne, and continued until there was evidence of the death of the fœtus. 3. Opinions differed as to the proper plan to pursue after the fourth month. If the fœtus was alive, it should be destroyed by electricity, no matter at what stage the pregnancy might be. If it was dead and in the earlier months, nothing should be done until some clear indication for operating occurred. In the latter months, after its death, it was better to wait a few weeks before operating. By this plan the danger from hæmorrhage would be lessened, as well as all the difficulties surrounding the removal of the placenta. On the other hand, if the fœtus was left to be absorbed by nature, there was great danger of suppuration and septicæmia.

NEW YORK SURGICAL SOCIETY.

Meeting of February 24, 1885.

The President, Dr. Robert F. Weir, in the Chair.

Fibro-Myxo-Sarcoma of the Tendons of the Wrist.—The President presented a patient, Marie D., eighteen years of age, who four years ago first noticed a tumor on the posterior surface of the left wrist. In 1882 she came under Dr. George A. Peters's care, who removed the tumor, and about three months afterward, while the patient was yet in the hospital, he extirpated some cervical lymphatic glands which had undergone cheesy degeneration. The growth at that time was examined microscopically, and pronounced a myxo-sarcoma. It recurred within a year and a half, when the patient came temporarily under Dr. Weir's observation. Last autumn she entered the New York Hospital. A tumor was then found lying over the wrist joint on the dorsal surface, about two inches in length, oblong in shape, which had somewhat the feel of a compound ganglion. Pressure at the lower part of the tumor gave a sense of fluctuation, and at the upper portion the sensation of the presence of rice-bodies could be detected to a slight extent. Dr. Weir resolved to remove the growth, and did so by making a long incision. When he had reached the tumor he found that it was adherent closely to the tendons of the extensor communis digitorum, and dipped down into the tissues below, so that in removing it one of the tendons (the thumb's inner extensor) was divided and the wrist joint opened. From the extent and general appearance, a question arose as to its exact nature. It presented thickened tissue with a number of small growths from its inner surface, and a certain amount of gelatinous fluid in its substance. No free rice-bodies were found. From the gross appearance it was thought possible, since Koenig had shown that the tubercle bacillus might give rise to ganglionic formations, that this was one of those varieties of tumor, and the growth was subsequently examined with reference to this particular point.

The interest of the case centered not only upon the rarity of the lesion, namely, sarcomatous disease of the tendons, but also upon the somewhat apparent conflict of opinion with reference to the nature of the tumor. Dr. Peabody, the pathologist of the hospital, who had examined both the first growth removed and the present one, reported that it was a myxo-sarcoma. Two other pathologists had examined the tumor and reported that they found only granulation tissue. Dr. Hall, who had been much interested in surgical diseases of tubercular origin, had taken special pains in the examination of the neoplasm, and had presented the following report:

Specimen, received from Dr. Weir, from Tumor of the Sheaths of the Tendons of the Hand, October 8, 1884.—The gross appearance is that of gray gelatinous granulation tissue, closely resembling so-called fungoid granulations.

Microscopic examination shows large bundles of white fibrous tissue, wavy, and containing large spindle cells. The bundles cross each other in different directions, so that some are cut transversely, some longitudinally, and some obliquely. Between these are masses of tissue consisting of small round and spindle cells, with abundant granular intercellular substance. Here and there throughout the section are small masses of adipose tissue. The tissue is moderately vascular, some of the vessels having well-developed walls, and others having a very thin, or no true, wall, resembling those usually found in sarcoma. *Diagnosis:* Fibro-sarcoma.

October 8, 1884.—Inoculated two Guinea-pigs with the fresh material in the left inguinal region subcutaneously. A similar wound without inoculation was made just previously on a third Guinea-pig as a check experiment. All the wounds were closed with catgut sutures and healed *per primam.*

January 2, 1885.—One of the inoculated Guinea-pigs found dead in the box. *Examination.*—Body well nourished, lymphatic glands not enlarged; no trace of tubercle in the internal organs or elsewhere. The two other Guinea-pigs are well nourished, and show no glandular enlargements.

The patient herself shows no recurrence of the growth, and has full use of her hand. The function of the thumb is also perfect.

Dr. G. A. Peters remarked that the tumor which he removed was connected with the sheath of the tendon, and presented the appearances described by the president.

Secondary Nerve Suture.—Dr. T. M. Markoe read a paper with this title. [See page 295.]

Dr. C. K. Briddon referred to a paper which he read before the society two years ago, in which he reported a case of secondary suture of the ulnar nerve performed several months after an injury which was produced by the patient falling and striking upon a broken glass tumbler. At the operation a small piece of glass was found between the severed ends of the nerve, and the proximal end was bulbous. No benefit whatever was derived from the operation. The man died a year afterward from phthisis, and at the time of his death there had been no return of either sensibility or motion. He was unable to obtain an autopsy.

Dr. L. A. Stimson thought that the long-delayed return of function was a point to be borne in mind constantly. In one of his own cases injury of the musculo-spiral nerve was followed by complete motor-paralysis, which lasted for more than three years, and then was succeeded by complete recovery of function by the muscles supplied by this nerve.

Dr. Markoe thought that the question of the possibility of natural restoration should be always borne in mind, and it was quite possible that many patients operated upon would have recovered after a long period. It was this fact which had induced him to wait one hundred and thirty days in one of his cases before operating. There were not, so far as he was aware, any statistical statements of the results of section of nerves in which no operation was performed.

Dr. C. T. Poore asked with regard to the longest time that had elapsed after an injury in which an operation had been performed with any success.

Dr. Markoe replied that in Dr. Weir's case the operation was performed nine years after the injury, and in another case six years. Certain it was that some of these sections produced paralysis which was permanent. How we were to ascertain whether any given section would terminate in recovery or not he was unable to say, and he thought, therefore, that, granting the possibility that the nerve might recover its power, the operation should be performed after waiting a reasonable length of time to see what nature could accomplish.

Dr. Poore remarked that about one year ago he saw a child, eight years of age, who five years previously sustained a fracture of the head of the radius, and the bone had united at an angle. At the time of the injury pulsation of the radial was lost, which was shortly followed by ulceration of the hand and arm, accompanied with total paralysis of the extensors, which had persisted. At the time of the examination the muscles on the dorsal surface of the forearm were atrophied.

Dr. Peters asked if additional damage had been done in any cases by the operation.

Dr. Markoe replied that no further impairment of function had resulted from the operation, and in no instance had death occurred as a result of it.

The President would call attention to two points in the *technique* of the operation. In his case he found great difficulty in overcoming the gap between the divided ends of the sciatic nerve, which, after they had been trimmed off, were separated to the distance of two inches and a half. The separation could only be overcome by liberating the nerve to a considerable extent and strongly flexing the limb, but, in addition to the sutures applied to the nerve itself, extraneous sutures in the soft parts outside were used, and were especially serviceable. From the difficulty in approximating the ends of the nerve in that case he was all the more disposed to follow a suggestion that had been made, namely, to make a bayonet section in one of the nerves, splitting the nerve not quite to its free extremity, and turning it over, and thus effecting the desired elongation. This had since been tried, and had been found to require the additional precaution in its employment that, when the nerve was so stretched, a suture should be inserted into the free end to prevent it from tearing completely through.

Chopart's Operation.—Dr. Stimson presented a cast of a stump left by a medio-tarsal amputation, together with the dissected member. They were taken from a cadaver found in the dissecting-room. There was no history, but the stump was evidently an old one. The body was that of a man fifty or sixty years old. The cicatrix was horizontal, and fully half an inch above the line of pressure in walking. The face of the stump was covered with a thick, well-padded layer formed of the flesh of the sole. It had a thick layer of epidermis, and showed no signs of present or previous ulceration. On dissection, the tibialis anticus was found much more wasted than the other anterior muscles, and its tendon was reduced to a small cord adherent to the soft parts of the upper flap. The other anterior tendons were adherent to the cicatrix. The heel was drawn upward, so that the anterior face of the os calcis was directed downward and forward, lying in a plane inclined about midway between the vertical and longitudinal planes when the limb was erect. The astragalus showed a corresponding degree of plantar flexion, and the range of motion in the ankle joint was about 10°. Its scaphoid articular surface was firmly attached to the flap. There was a small osteophyte on the upper outer anterior border of the os calcis. The stump appeared to have been a thoroughly useful one, notwithstanding the well-marked plantar flexion.

Dr. Markoe remarked that the specimen illustrated in a striking manner one of the objections which had been urged against the operation, namely, change in the position of the heel.

Dr. H. B. Sands said that the cicatrix did not seem to have been presented to the ground.

Dr. Stimson remarked that the point of pressure was well protected.

Dr. Sands asked if the specimen did not rather refute than sustain the objection urged against Chopart's operation, by showing that the retraction had not been such as to cause the cicatrix to come in contact with the ground in walking.

Dr. Charles McBurney remarked that some time ago he presented to the society a patient upon whom he had performed Chopart's operation, and the result did not exhibit any of the defects said to accompany the operation necessarily; the patient had complete control over the bones of the foot that were left, and was able to flex and extend the stump. He could also present the original plantar aspect of the foot to the ground. At that time the speaker made a statement which he still felt like adhering to, namely, that the greatest importance was to be attached to the manner of treating the stump immediately after the operation, not allowing the limb to rest with the muscles at the back of the leg having entire control. The stump should be firmly flexed throughout the healing process, so that the anterior tendons would become attached at as low a point as possible.

Dr. Peters asked how the flexion was secured.

Dr. McBurney replied that it was secured by the application of a posterior splint, the part presented to the sole of the foot being turned upward to the ankle and fixed it in that position. The immediate splint was made of pasteboard and secured with plaster of Paris. Even upon the dead subject, when Chopart's operation was performed, if the limb was held free, there would be a noticeable dropping of the os calcis, with a bending downward of the anterior portion of the stump.

Dr. Markoe remarked that he understood that the objection to the operation was not that the original stump presented a badly situated cicatrix, but that, by the contraction of the gastrocnemius, and also from the irregular face of the os calcis, it was gradually pushed back and came finally to press upon the ground in an unfavorable position.

Dr. McBurney said that Dr. Sabine, in one of his recent visits to the West Indies, had found that the operation was performed there very frequently for the relief of a certain disease which affected the toes of the negroes, making amputation of the anterior part of the foot necessary. He was told by the surgeons that the results were good, and that they had never seen twisting of the os calcis upon itself. The patient whom he (the speaker) had presented to the society could run upon his stump, and had never had any artificial support.

Dr. Stimson called attention to the fact that the preservation of motion at the ankle joint diminished the friction of the face of the stump against the ground in walking.

Hydatids of the Liver and Mesentery; Laparotomy.—The President presented a specimen, and gave the following history:

Richard H., a native of England, twenty-six years of age, living in New Jersey, was admitted into the New York Hospital January 21, 1885. His personal history was negative. There was no special history with regard to diet, although he preferred rare meat to that which was well cooked. In June last he became aware that his abdomen was beginning to increase in size, and the fullness was first noticed over the region of the liver. There was no pain in the enlargement, and it inconvenienced him only by its weight and dragging. Whether he had had more than the ordinary association with animals (dogs and sheep) said to be infested with the parasite which gave rise to hydatids, the president had been unable to make out.

At the time of his admission the patient was a rather thin but healthy-looking man, weighing 158 pounds. His abdomen and the lower part of his thorax were much distended. The circumference of the abdomen at the umbilicus was 36½ inches, at the lower border of the ribs 39 inches, and the right lower ribs bulged outward very much more than the left. On palpation, a large tumor, of the size of a man's head, was felt in the right upper part of the abdomen, another nearly as large occupying the lower part of the abdomen, and between these tumors another of about the size of an egg could be distinctly felt which was freely movable over an area of several inches. The larger tumors extended over beyond the median line toward the left side for several inches. On palpation, a sensation of fluctuation could be detected, but apparently it was not transmitted from one tumor to the other. No hydatid fremitus was detected. A hypodermic needle was introduced and perfectly clear fluid withdrawn, which showed nothing on microscopic examination. Examination of the urine was negative.

A diagnosis of cystic tumor of the abdominal cavity was made, probably hydatid and involving the liver. Whether the tumors were independent or united was a matter of some doubt. The question arose mainly with reference to the treatment, whether puncture or incision should be made. After considering the matter, the president resolved to resort to incision, and, on the 24th of January, he made an opening through the abdominal wall, 2½ inches in length, in the epigastric region, and, when the tumor was reached, it showed itself as a thickened white mass. The peritonæum was first secured to the edges of the abdominal wound by sutures all round, and then a large-sized trocar was plunged into the cyst, but only a few drops of clear fluid escaped. Had he succeeded in obtaining fluid with the trocar, he had intended to draw the tumor up as much as possible, open it freely and evacuate it, and sew its walls to the peritoneal surface of the abdominal wound. After the cannula was removed, the edges of the opening were seized with a forceps and lifted up out of the incision, and the opening in the cyst was then enlarged to the size of the abdominal wound. Hundreds of amber-colored and transparent cysts escaped, varying in size from that of a pea to that of an orange. The quantity was not noted, as considerable escaped, so that it could not be measured, but the entire quantity was estimated at from four to five quarts. The edges of the sac were then sutured to the external wound, and two large-sized rubber drainage-tubes inserted. Peat dressing was applied. The operation was begun with full antiseptic precautions, but had not proceeded far before the steam atomizer gave out, and it was continued without the further use of spray.

On the 25th the patient complained of much pain in the head, and required to be catheterized. On the 26th the pain in the head continued, but the patient passed his urine. There was no peritonitis. The temperature rose that afternoon to 103·4° F. The wound discharged hydatid cysts. The dressings were changed under spray when necessary. On the 27th the urine contained about ten per cent. of albumin. The wound was dressed under spray, and more hydatid cysts were discharged. On the third day there was suppression of urine with elevation of temperature. From this time the case progressed unfavorably, and the patient died ten days after the operation. On the eighth day after the operation the cyst-cavity was washed out thoroughly with a bichloride solution, 1 to 5,000. At that time it was discovered that the lower tumor was diminished in size. Until this time it had been considered a separate tumor.

The autopsy showed that the tumor was a large bi-lobed formation, with a separate tumor in the mesentery, and that in the walls of this large mass, which had invaded completely the substance of the right lobe of the liver, quite a large number of hydatid cysts were projecting into the abdominal cavity, so that if the patient had recovered it would have been only temporarily. The liver was forced downward, so that its upper surface looked forward, and was adherent to the lower surface of the diaphragm, and to the upper surface of the diaphragm the lower lobe of the right lung was adherent, a fact which pointed somewhat toward an effort of nature to effect evacuation of the tumor in that direction.

There were two points in the operation which the president regretted not having observed. First, in not having made a more liberal incision in the abdominal walls for exploration, and into the tumor, by which it could have been evacuated more thoroughly, and which also would have enabled him to lift out more of the cyst-wall and remove it. He believed that the patient's death was caused primarily by the noxious influence which all abdominal operations were apt to exert upon the kidney secretion, and, secondarily, by the septic process in the sac contents, and that this latter could have been diminished by the removal of a large portion of the cyst. This would also lessen the chances of recurrence of such growths.

In the second place, it had been stated that kidney complications were more liable to occur in operations done under the spray of carbolic acid than when carbolic acid was not used.

He did not think that the carbolic spray in this instance was a factor in the production of the fatal result, as it gave out early in the operation, and, moreover, only a space of two and a half inches of the cyst-wall was exposed to its influence for even this short time. The renal symptoms occurred prior to the use of the spray employed when the dressings were changed.

Dr. Peters remarked that he was able to observe a pulsation between the two large tumors, and regarded them as a single cyst.

Bursal Swelling at the Back of the Wrist.—Dr. A. C. Post narrated the case of a boy nine years of age, who was brought to his clinic with a swelling of this sort, and in which he made an effort to rupture the sac by striking it sharply with a wooden bat. The first blow did not rupture the swelling, and he repeated it several times, and found that a dangerous degree of force would be required to rupture it in that way. He then punctured the cyst, and pressed out exceedingly viscid contents—much more viscid than the vitreous humor. After squeezing out the contents through a small opening, he applied an antiseptic lotion, and afterward a compress made of cork which he bound over the swelling with a bandage. This was allowed to remain for a week, when the patient returned, and, on removing the dressing, he found that the cork had made a marked depression of the surface where it had been applied, but that there had not been the slightest inflammation, and the case was progressing favorably.

Note.—The patient was seen again after the lapse of another week, and there was nothing to indicate a return of the swelling.

Dr. Sands inquired how frequently the members of the society had performed cutting operations for the cure of this disease, for it seemed to be a question of considerable interest at the present time. The treatment by rupture, as described by Dr. Post, had doubtless often yielded good results, but not infrequently the relief afforded proved to be temporary. Another method of evacuating the cyst was to open it subcutaneously with a broad needle. His own experience with this method had been generally favorable, yet he had known it to fail to accomplish a permanent cure. He had lately seen a patient who had been treated in this manner by an eminent surgeon in New Haven. The operation being followed by a recurrence of the swelling, the surgeon again emptied the cyst in the same way, and, as the contents flowed out through the puncture, he inserted a hypodermic needle into the opposite wall of the sac, and injected it with a strong solution of carbolic acid. This procedure was also unsuccessful, and when Dr. Sands saw the case the tumor was of irregular shape and nearly as large as an English walnut, constituting a very conspicuous deformity. Dr. Sands advised a trial of iodine injection, and had since heard that this had been successfully employed. His knowledge of extirpation of such ganglia was limited to two cases. The first one he himself treated by excision a good many years ago, and was able to dissect out the cyst without opening the sheath of the tendon. The patient made a good recovery.

The other case occurred in the practice of a medical friend before the days of antiseptics. Excision was performed, the parts being rendered insensible by ether spray. Violent inflammation followed the operation and rendered the hand nearly useless. Dr. Sands saw the patient several years afterward, when she was unable to flex the fingers, and there was but little motion of the hand. In that case the sheath of one of the extensor tendons of the thumb was opened, and it was feared at the time of the operation that mischief would follow. Probably at the present day there would be but little risk of phlegmonous inflammation following such an accident, and in some instances an operation for the complete removal of the swelling might be indicated as the only effectual means of accomplishing a cure.

The President referred to the fact that Dr. Abbe, in the Out-Patient Department of the New York Hospital, had shown him three cases, in two of which he had resorted to puncture, and in the third to an incision, packing the sac with iodoform. In each instance the case had done perfectly well. The operation of incision and packing with iodoform had struck him as one worthy of trial.

Dr. Stimson said that he had recently made subcutaneous puncture by means of a flat needle in two cases, both of which did well.

Dr. Sands thought that the subcutaneous puncture was always safe.

Dr. Post remarked that he attempted subcutaneous puncture in his case, but the cyst was so thick that the fluid was oozing out before it was complete.

The President referred to one case in which injection of a ganglion with carbolic acid was followed by severe reaction, for which he was called upon to dissect the tumor out. The wound thus made healed promptly.

Dr. Peters remarked that one of the earliest operations he performed was subcutaneous puncture of one of these swellings upon the wrist of a very old gentleman, and the result was good.

Removal of a Thickened Bursa from over the Trochanter Major.—The President presented a specimen removed from over the trochanter major of a married woman, which appeared shortly after her confinement with her last child, two years ago. It did not seem to be associated with labor, and was not noticed until after she was up and about. The swelling was treated by counter-irritation without relief. Increase in size steadily took place, and finally a tumor of about the size of an egg was formed. He then thought it was probably a fibro-sarcoma, and, from its not being quite certain whether or not it was movable on the femur, that it might be of periosteal origin. At the operation, performed three weeks since, it was found to be a bursa over the trochanter major under the gluteus maximus muscle, with walls nearly an inch in thickness and constituting a mass as large as a goose-egg. The central cavity was of about the size of an almond. Recovery was prompt.

Lithotrity under Cocaine Anæsthesia.—The President referred to a case in which he had performed lithotrity within the last ten days under the influence of cocaine. The patient was a man, seventy-two years of age, with marked cardiac lesions, and his condition was such as to preclude general anæsthesia. He had long suffered from prostatic trouble, and a number of years ago submitted to an operation of prostatotomy by Dr. Gouley, with marked benefit. The calculus was about three quarters of an inch in diameter and phosphatic in character. Lithotrity, practiced after the old-fashioned method, was tried, with considerable suffering to the patient, but his condition was so poor that further efforts in this way could not be entertained. The patient's vesical sufferings were so great that the president finally determined to see whether cocaine would be of sufficient service to enable him to remove the remainder of the calculus. He therefore, February 5th, injected into the bladder, previously washed out with warm water, three drachms of a four-per-cent. solution, and allowed it to remain fifteen minutes, when an additional quantity of water was thrown in and the lithotrite was introduced. Although the urethra was still somewhat sensitive, the pain in this part was very much lessened, the bladder was entered without distress, the stone seized, from five to eight crushings were rapidly made, Bigelow's apparatus with a No. 29 curved catheter was introduced, and the aspiration effected. The entire operation occupied not more than eight to ten minutes. While the procedure was not absolutely painless, the cocaine reduced the sensibility of the invaded urinary tract to such a marked degree that the patient endured the operation without special difficulty. In the "Lancet" of January 17th, received the day of the operation, there was a report of a similar operation, in which cocaine had been used with much more satisfactory results. The patient was operated upon at St. Peter's Hospital, and the stone was crushed and withdrawn in less than fifteen minutes in a painless manner. In this case four drachms of a four-per-cent. solution were injected into the bladder.

Dr. Markoe inquired if there were any cases on record where unfavorable effects had been produced by cocaine when applied to the unbroken mucous membrane.

The President replied that he knew of none.

Dr. R. J. Hall remarked that he had seen constitutional symptoms produced by an injection of two drachms of a four-per-cent. solution of cocaine into the urethra. He had discovered also, what did not appear to have been noticed, that, while small quantities produced vaso-motor spasm, and, consequently, anæmia of the part, large quantities produced vaso-motor paralysis and congestion. In the same way, when a dose just large enough to cause constitutional symptoms was given, the patient had dilated pupils, with pallor of the face, nausea, and a small, hard pulse, while after much larger doses the pupils were not more dilated, nausea and pallor were absent, the pulse was full and soft, and a dreamy mental condition was produced.

The President remarked that, had he been compelled to consider the subject of lithotomy in his case, he should have attempted to perform the operation by the aid of the local anæsthetic effect of cocaine. His experience in the removal of superficial tumors, and in several deep incisions for pus, had satisfied him that such an operation as lithotomy might be accomplished by the use of cocaine.

Dr. Briddon had seen considerable relief follow the injection of one drachm of a two-per-cent. solution into the bladder for the relief of vesical tenesmus associated with prostatic trouble. He had one patient under observation in the Presbyterian Hospital who had used it every night with the result of obtaining about two hours and a half of rest, while no opiate or any other treatment afforded more than half an hour of relief.

CLINICAL SOCIETY OF THE

NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of January 17, 1885.

(*Concluded from page 288*).

Diabetes.—In the further discussion of this subject, Dr. C. H. Brown said that he had used ergot and bromide of sodium chiefly in the treatment. He had found severe mental strain to be a condition preceding the disease in two cases, and insomnia accompanying it.

Dr. Hammond did not think that the theory of an hepatic lesion would cover all the cases, but that the trouble often dated from some derangement of the vaso-motor system, originating, however, in the medulla. He had had no experience with the iodoform treatment.

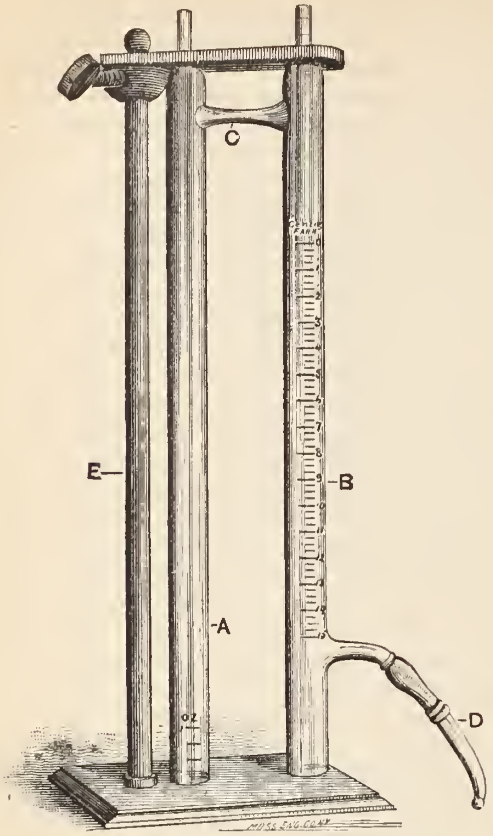
Dr. S. J. McNutt cited statistics showing the rarity of the disease, especially in children. In the latter, however, incontinence of urine was to be looked upon as a suspicious symptom. It was common in diabetes, and it was due in part to irritation of the bladder by the saccharine urine. Notwithstanding the rapid fatality of diabetes in children as a general thing, one child ten years old had recovered under the use of the skim-milk diet.

Dr. Lloyd had noticed, in a series of examinations of diabetic urine by Trommer's test, that, when no precipitate had occurred during the boiling, a flocculent white deposit took place during the cooling if the specimen contained little sugar, but an excess of urates or phosphates. This had led him to make a number of experiments to determine the accuracy of the test. Specimens containing urates, phosphates, and sugar only were each submitted to the test according to the usual method, a small quantity of the urine being poured into a test-tube, and then a drop or two of the sulphate-of-copper solution and an excess of the soda or potash solution. The result was the same with the specimens containing the phosphates and the urates, but with the sugar solution the characteristic color was observed. Solutions were then prepared which contained large quantities of the two other ingredients, but very little sugar, and it was then found that the color imparted to the supernatant fluid by this one substance was sufficient to seem to color the entire precipitate, and thus lead to the erroneous conclusion that the whole heavy deposit was suboxide of copper, due to the presence of sugar, and that the patient must necessarily be well advanced in the disease. He had finally concluded that, if this test was used, the phosphates should first be precipitated by heat, and the urates neutralized by adding the soda before the copper; but, when all this was done, the test took quite as much time, and was just as troublesome, as Fehling's, over which, even then, it had no advantages. He had, therefore, been forced to conclude that the only sure and quick test was Fehling's, but he could not see the necessity of having it complicated with the three bottles. He had two solutions prepared, and had never found any difficulty in keeping them if the bottles were kept properly stopped and no foreign matter was carried into them with the pipette. In his experience, Squibb's two-bottle solution was very convenient as well as accurate.

He had also analyzed a number of specimens of diabetic bread said to be free from glucose, but, with a single exception, he had found that they all either contained it in large amounts or were unpalatable. The exception was in the case of the bread made by Hecker, of New York, which contained only 1·53 per cent. of glucose. Unfortunately, this bread was not made regularly, and only an occasional sample could be obtained.

An Apparatus for determining the Amount of Sugar in Diabetic Urine was presented by Dr. John E. Bailey. It was founded on the fact that, when forty-five grains of glucose were decomposed by yeast, forty-seven cubic inches of carbon dioxide were evolved. It was evident, therefore, that, for all practical purposes, one grain of glucose, when it had undergone complete vinous fermentation, had given off one cubic inch of gas. The apparatus consisted of two glass cylinders, A and B, closed at the bottom, and fitted with rubber stoppers at the top, connected at their upper extremities by a small tube, C. E was a frame which supported the tubes upright. The tube B was graduated in cubic inches and quarters, and had an outlet-pipe, D, near the bottom. An ounce and three quarters completed the scale marked on the tube A.

In using this device, an ounce of the urine was poured into A, a little yeast was added, and the stopper was replaced. B was then filled with water up to a little above the top of the scale, the outlet being closed. The stopper was then replaced, and the outlet opened, when the level of the water would fall to zero. As fermentation proceeded, and gas was evolved, the water was pressed out at D, and the exact number of cubic inches was registered on the scale B. He had found the results very accurate. If the specimen was supposed to contain more than fifteen grains to the ounce, only half the quantity should be used, and the amount of gas multiplied by two. About twenty-four hours were required to complete the experiment, and the temperature of the room should be kept equable, to guard against accidental fluctuations. The outlet should always be kept immersed.



In the use of Fehling's test, he would advise the following modification of Dr. Austin Flint, Jr.'s, formulæ:

Solution No. 1.	Pure sulphate of copper	47·43 grains;
	Distilled water	1 ounce.
	Filter.	
Solution No. 2.	Pure neutral tartrate of sodium	236·88 grains;
	Distilled water	1 ounce.
	Filter.	
Solution No. 3.	Pure caustic soda	80·65 grains;
	Distilled water	1 ounce.
	Filter.	

If only one ounce of the solutions was to be made, the fractions of a grain could be disregarded, but for larger quantities it was essential to take them into account. In testing for glucose, it was only necessary to use equal quantities of the solutions, boil, and, while the mixture was still quite hot, allow a drop or two of the urine to run down the side of the test-tube. If, after the same quantity of the suspected fluid had been added as there was of the test, and the mixture had again been boiled and allowed to cool, no precipitation of suboxide of copper was observed, it could safely be said that there was no sugar in the specimen. These solutions had been in use in the college laboratory for more than a year past, and had never been known to fail, even when albumin was present in large amount; and the students had never had any trouble in obtaining the proper results.

Compound Backward Dislocation of the Lower End of the Femur.—Dr. H. M. Guild, of Vermont, reported a case. The patient caught his foot in the wheel of a carriage, and, when the doctor reached him, the limb was shortened about six inches, and there was a wound in the popliteal region six inches and a half in length. Through this opening the lower end of the femur protruded, but no fracture could be made out. The dislocation was reduced and the wound sewed up; the motions of the joint were then perfect. The after-treatment consisted simply in keeping the limb in a straight position, with complete rest, by means of anterior and lateral supports and moderate extension. The wound was treated antiseptically. Although the patient had several attacks of synovitis, his recovery was fairly rapid, leaving him with complete ankylosis. In less than one year from the time of the injury he was doing considerable manual labor, and was now able to go about without the aid of either crutch or cane.

Reports on the Progress of Medicine.

PHYSIOLOGY.

By Græme M. Hammond, M. D.

The Proteids of Serum.—Halliburton ("Journal of Physiology," v. iii) recognizes two varieties: serum globulin and serum albumin. Their chemical constitutions are unknown, but they are well distinguished by their physical characters. The serum used in the experiments was chiefly blood serum of mammalian animals and the varieties of human serum which are generally known as pathological exudations. The experiments were arranged in two chief categories: first, those relating to the temperature of heat-coagulation of the proteids; and, secondly, those relating to the action of certain salts upon them. The temperature of heat-coagulation of serum albumin is put down by Hoppe-Seyler as 70° to 73° C. Halliburton found that, after heating serum to the higher of these two temperatures, and filtering off the resulting coagulum, the fluid still contained coagulable proteids which became a flocculent precipitate at a higher temperature. A process of fractional heating was therefore adopted. A sample of serum is heated until a flocculent precipitate appears; this is filtered off; the filtrate is then heated to a higher temperature until another similar precipitate appears; this is then filtered off; the process is repeated till the filtrate is free from proteids. To render the serum acid, a two-per-cent. solution of acetic acid was used. The process was applied first to serum pure and simple. The proteids of serum were afterward separated into their two classes, and each was subjected to the same treatment. The results of a great number of experiments show that the albumin of serum is not a single proteid, but consists of three separate proteids, coagulating respectively at the temperatures of about 73°, 77°, and 84° C.

The Physiological Relation between the Thyroid Gland and the Spleen.—Tauber ("Arch. f. path. Anat. u. Phys. u. f. klin. Med.," cvi, 1) removed the spleen from a patient, in the autumn of 1882, for cystic degeneration. Fearing that the loss of the spleen would entail great suffering, he made a number of experiments upon different animals, which satisfied him that the healthy spleen could be removed from animals of middle age without injury to the organism. Fifteen operations were performed on different animals of various ages. The animal was first confined in a cage for a considerable length of time, and was regularly fed. Once a week the blood was examined under the microscope, and, by means of Malassez's apparatus, the number of white and red blood corpuscles was definitely determined. The incision was made in the left hypochondriac region, the spleen found and excised, a ligature applied to the gastro-lienteric ligament, and the wound dressed with iodoform and antiseptic coverings. The subjects of the experiments were divided into three groups: 1. Those upon which the operation previously described was performed and the wound allowed to unite freely. 2. Those from which the thyroid gland was removed after recovering from the excision of the spleen. 3. Those from which the thyroid gland and the spleen were removed at the same time. Out of the fifteen animals operated upon, six died. One fact noted was the frequent absence of the thyroid gland in domestic animals. Out of the fifteen operated upon, ten either had none at all or only a trace.

Tauber arrives at the following conclusions: 1. The spleen must be considered as one of the principal reservoirs of the blood. By its removal a great current of the circulation is retarded. In the first moments after its removal repeated arrest of the circulation of both the blood and lymph occurs in the liver and kidneys. 2. Between the thyroid gland and the spleen there is no physiological similarity, as Credé and Zisas maintain. 3. A middle-aged animal bears splenotomy better than an older one. 4. Animals without spleens are capable of becoming impregnated and giving birth to living progeny, in which the spleen is not absent. 5. The removal of the spleen has no influence upon the function of digestion. The weight of the animal decreases somewhat in the first week after the operation, but soon increases considerably. 6. After removal of the spleen the animal becomes anæmic; the relative number of the white blood corpuscles increases considerably, while the size and number of the red corpuscles diminish.

Alterations of Cortical Excitability by Cold Applied to the Surface of the Brain.—"It is known in a general manner," says De Varigny ("Brain," July, 1884), "that all tissues die rapidly when submitted to the influence of a certain degree of cold or of heat. But we do not know positively whether cold applied to the surface of the brain in the way in which M. Marcacci applies it does really kill the brain-elements; in fact, I do not believe it does; nor do I believe I killed them in my own experiments conducted in the same manner as Marcacci conducted his. This author says that by pulverizing ether one may obtain twenty, thirty, or even forty degrees below zero (Centigrade)." De Varigny believes this to be true if the liquid is pulverized upon a thermometer, but he does not believe that the same process can freeze the brain-surface. He has pulverized ether upon this surface for ten or twelve minutes continuously, and has never found the gray matter frozen. The blood does not cease to flow in the vessels, and the temperature always comes back to its normal degree in a few minutes. His experiments were performed upon dogs in the following manner: The animal was narcotized with chloral (by intra-venous injection), and, the brain being exposed, he ascertained exactly what strength of current was necessary to obtain a motor-reaction of the foreleg, for instance, and also the time required for the occurrence of this reaction; in short, the latent time of reaction. When these two points had been accurately ascertained, he began pulverizing ether on the brain-surface, doing all he could to refrigerate the motor center of one leg only without injuring that of the other. When refrigeration had been going on for five, ten, or fifteen minutes, he ascertained whether the motor center could be excited, with what strength of current, and with what latent time.

As a result of his experiments, he concludes that, generally speaking, after five or ten minutes' pulverization, excitability disappears or only diminishes. It can always be made to disappear if the spray is kept on long enough. After some time, if the cold has not been too intense, it reappears slowly, and may become greater than it was before. He can not say anything definite as to the length of the latent time after the return of excitability. It was generally found to be about the same.

The Temperature Sense.—Not satisfied with the methods employed by Weber and Nothnagel for testing the relative sensibility of different areas of the skin to heat, Pollitzer ("Jour. of Physiol.," v, 3) has invented a new instrument for determining the smallest amount of heat which different parts of the skin can appreciate. The instrument consists of a frame-work mounted upon a platform made of strata of mica, asbestos, and wood, and perforated by a circular opening fifteen millimetres in diameter. Within the frame-work, and immediately over the opening in the platform, there is an apparatus similar to the Paquelin cautery, except that the whole interior of the button is lined with platinum. This apparatus can be raised or lowered at pleasure, the distance being registered on a scale divided into millimetres. The whole instrument rests upon a large stand, from beneath which currents of air are excluded by means of cloth curtains.

Pollitzer maintains that by using this instrument: 1. The temperature of the source of heat is practically constant. 2. The parts examined and the heated parts themselves are sheltered from accidental currents of air by the use of suitable screens. 3. The effects of convection currents of heated air are entirely eliminated by having the heated surface always vertical over the part examined. 4. The thermal sensations are uncomplicated by any sensations of touch. 5. The parts of the skin examined are always of exactly the same extent of surface.

Six persons, all males, of different ages and occupations, were experimented on. Determinations were made for the middle of the back of the hand, the middle of the palm of the hand, the palmar surface of the third phalanx of the index-finger, the middle of the anterior surface of the forearm, the middle of the back, and the middle of the posterior surface of the calf of the leg.

The following conclusions are stated: 1. The relative sensitiveness to heat in different parts of the body is not the same in different individuals. 2. It differs much less in different parts of the same individual than the sensitiveness to pressure or the power of localization, the greatest difference for heat being three to one, while for pressure it is at least five to one, and for localization sixty to one. 3. The parts in which the other cutaneous senses are most acute are not the same as those in which there is the greatest sensitiveness to heat. 4. Of the parts examined, the tip of the index-finger is the least sensitive; in other parts, where the sense of locality is from five to thirty times as dull, the thermal sense is two or three times as acute. 5. The thermal sensitiveness bears no definite relation to the thickness of the epidermis.

Miscellany.

Lithotrity in Infants.—Ducarre (Thèse de Paris, 1884; "Bull. gén. de thérap."), after discussing this subject at length, draws the following conclusions: Lithotrity in infants is a comparatively mild procedure, the hardness rather than the size of a calculus being a contra-indication to operation. A catarrhal condition of the bladder does not affect the result of the operation.

Dr. Emmet's New Operation for Laceration of the Perinæum was lately made the subject of a paper read before the Paris *Société de chirurgie* by M. Kirmisson, who reported two successful cases.

The Health of the State of New York.—The "Monthly Bulletin" of the State Board of Health for the month of January contains the following summary: "The total reported mortality for the month is 6,571, the percentage of infant mortality being 32·95. From croup and diphtheria the percentage of mortality is 6·8; from consumption, 15·8; from other respiratory diseases, 16·4; from typhoid fever, 1·4; from all zymotic diseases, 11·12." The returns are still incomplete, but it is announced that improvement has been noticed since the publication of the "Bulletin" was begun.

The Health of the State of Michigan.—For the four weeks ending February 28th, the secretary of the State Board of Health, Dr. Henry B. Baker, reported that, as compared with the preceding month, there had been an increase of pneumonia and inflammation of the kidney, and a decrease of intermittent fever and amygdalitis; and that, as compared with the same month for the years since 1879, erysipelas and neuralgia had been more prevalent, and intermittent fever, diphtheria, remittent fever, measles, and scarlet fever less prevalent.

The Death of Professor Lucal, of Frankfort on the Main, is announced in a recent number of the "Deutsche Medizinal-Zeitung."

THERAPEUTICAL NOTES.

Anisic Acid.—Curci ("Rivista Ital. di Terap. ed Igiene"; "Bull. gén. de thérap.") describes this drug as formed by the oxidation of essence of anise. It occurs in the form of colorless prismatic crystals, soluble in alcohol and in ether. The most powerful of its salts is the anisate of sodium. The acid has decided antiseptic properties, and in its antipyretic effects it resembles salicylic acid. Curci affirms that there is a noticeable increase of the blood-pressure after the administration of the drug. It has a feeble toxic action, causing epileptoid convulsions in animals when it is injected into the veins in large quantity. Applied in its pure state, it forms a good dressing for open wounds. It is a valuable antipyretic in acute inflammatory affections, and its use is not followed by the unpleasant after-effects sometimes observed after the use of salicylate of sodium.

Inhalations of Nitrogen.—In our issue of July 12, 1884, we gave a summary of an elaborate paper on this subject, by Sieffermann. Valenzuela ("Revista de Med. y Cir. Práct."; "Bull. gén de thérap.") reports the results of a series of experiments performed with the view of determining the therapeutical value of these inhalations. Ten subjects were allowed to inhale air charged with an equal volume of nitrogen for two hours daily, and their urine and the air expired by them were carefully analyzed. At first, the respirations were increased in number and in amplitude, the veins became dilated, the pulse was more frequent and full, and the temperature rose slightly. After the lapse of several minutes the respirations became slower, and the patient returned to his normal condition. Reflex nervous excitability was diminished, and drowsiness was experienced. The analysis of the expired air showed that there was a marked diminution in the amount of oxygen consumed, as well as in the quantity of carbolic acid excreted. The writer has observed valuable clinical results, especially in the treatment of phthisis, in which, by the use of the inhalations, he caused an amelioration of the local trouble and an improvement in the general condition. The treatment is recommended for asthma and anæmia also.

The Physiological Effects of Cinchonamine.—Sée and Bochefontaine ("Gaz. hebd. de méd. et de chir.") have experimented with the sulphate of this alkaloid, which is obtained from the *Remijia purdiana.* They attribute to it the following properties: 1. Gradual enfeeblement of the nervous system, followed by convulsions. 2. Slowing and weakening of the heart-beat, and, after large doses, the complete arrest of the heart in systole. They infer that the sulphate of cinchonamine is six times as powerful as the sulphate of quinine.

The Treatment of Enlarged Bursæ by Injections of Carbolic Acid.—Courtade ("Bull. gén. de thérap.") favors treating these cases by aspiration and injecting a solution of carbolic acid, 1 to 20. Firm compression is then applied, and the limb is kept quiet for several days. Symptoms of local inflammation may be noticed, but they soon disappear. This treatment is designed to take the place of incision of the bursa.

Trichloracetic Acid as a Nervous Sedative.—Bodländer ("Centralbl. f. klin. Med.") replies to a criticism made by Hermann of the statements put forward in behalf of this compound; insists on its activity, especially as a nervous sedative; and denies that it simply produces motor disturbance without any narcotic effect. The discussion is warm, but rather unprofitable.

Naphthalin in the Treatment of Intestinal Affections.—Rossbach, whose observations in regard to the use of this drug for diarrhœa we summarized in our issue of September 6, 1884, suggests ("Centralbl. f. d. ges. Therap."; "Bull. gén. de thérap.") the following formula for its administration:

Naphthalin, White sugar, each	75 grains;
Essence of bergamot	½ grain.

Divide into twenty powders. From five to twenty powders are to be taken daily in cases of diarrhœa. The drug is especially recommended in the treatment of tuberculosis of the intestine.

Phormium Tenax as a Vulnerary.—Monckton ("Australasian Med. Gaz.") speaks highly of the use of a decoction of the root of the *Phormium tenax* (New Zealand flax) as a surgical dressing. It should be prepared fresh every second day, and a moderate amount of carbolic acid may be added. Wounds are syringed out with the decoction, and are afterward dressed with cotton-wool or lint soaked in the same. The writer adds that he has employed this preparation in wounds of every description, and always with a good result; the granulations are uniformly healthy, and healing takes place rapidly.

Bicarbonate of Sodium as an Antidote to Iodoform.—Behring ("Courrier méd."; "Rev. méd.") maintains that bicarbonate of sodium unites with iodoform in the body to form an iodide, in which state it is found in the urine; and that, by the regular administration of the bicarbonate, a condition of toleration of iodoform is brought about in the system.

The Poisonous Properties of Chlorate of Potassium.—Hirschwald ("Centralbl. f. klin. Med.") has written a monograph on this subject, wherein he details the results of careful observations with regard to the toxical and therapeutical properties of the drug. He thinks that the fatal consequences that are sometimes observed after the administration of moderate doses are due to diminished alkalinity of the blood, with consequent decomposition of the hæmoglobin. The practical inference is that, in poisoning with chlorate of potassium, large doses of carbonate of sodium should be given, in order to increase the alkalinity of the blood.

Tincture of Anemone in the Treatment of Orchitis.—Martel, in a letter to Dujardin-Beaumetz ("Bull. gén. de thérap."), mentions several cases in which he has observed improvement after the use of this drug. He discusses the question of its specific action, but is unable to decide it. He remarks that, in its sedative properties, anemone resembles aconite and adonis.

A Laxative and Diuretic Powder.—The following formula is given by Peter ("Union méd."):

Powdered squill, Powdered digitalis, Calomel, each	1 grain.

Divide into three powders, of which one is to be given every hour in cases of dropsy, whether of cardiac, renal, or hepatic origin. The three powders may be repeated after two or three days.

A Lotion for Syphilitic Spots.—Mauriac (*Ibid.*) recommends the following:

Bichloride of mercury	3 grains;
Chloride of ammonium	10 "
Cologne-water	10 drachms;
Distilled water	3 ounces.

An Ointment for Scabies.—The same journal gives Hardy's formula as follows:

Naphthol	5 drachms;
Vaseline	6 ounces.

Dissolve the powdered naphthol in half its weight of ether. Mix with a part of the vaseline, heat until the ether has evaporated, and then add the rest of the vaseline. The ointment is to be applied daily for ten or fifteen days.

An Application for Ozæna.—The following is Vidal's formula, as employed at the Hôpital St. Louis ("Jour. de méd. et de chir. prat."; "Practitioner"):

Solution of chloride of zinc, 5 per cent.	1 ounce;
Boric acid	14 grains;
Water	28 ounces;

Ammonia-water, enough to neutralize the solution.

To be sniffed up into the nose several times daily.

An Ointment for Sycosis.—Hans Hebra proposes the following formula ("Wiener med. Blätter;" "Practitioner"), which is a modification of one proposed by Wilkinson:

Sublimed sulphur, Oil of cade, each	8 drachms;
Soft soap, Fat, each	2 ounces;
Prepared chalk	5 drachms.

After the hair over the diseased spot has been cut short, and the crusts have been taken away, rub in the ointment thoroughly, and apply a flannel bandage. The ointment should be applied daily, the affected hairs being carefully pulled out and the pustules emptied. The cure is said to be complete in about ten days.

An Ointment for Ecthyma.—Besnier ("Rev. méd.") employs the following:

Carbolic acid	30 grains;
Vaseline, Starch, each	3 ounces.

This preparation is especially recommended for eruptions of a parasitic origin.

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Original Communications.

INJURIES TO THE PELVIC FLOOR FROM PARTURITION AND OTHER CAUSES.

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(*Continued from page 295.*)

Treatment.—The object in treating these injuries should be to restore the lacerated muscles by securing union of their severed fibers. In the ordinary or most commonly recognized injury, laceration in the median line down to, but not through, the sphincter, the immediate treatment usually employed is to close the wound with sutures at once, or to cleanse the wound from blood-clots and adapt the parts, carefully bind the patient's limbs together, and trust that union may follow. The treatment by the immediate use of the suture will be made plain by the following:

Primary Operation.—The wound, if seen when it occurs, is triangular, the base running parallel to the rectum and the apex at the posterior part of the vulva. The sides of the wound come together quite easily, and only require well-adjusted sutures to keep them in position. Much care is necessary in using the sutures. If they are imperfectly introduced they do harm by preventing the union which often takes place without surgical aid. If one is not used to this simple operation of closing the wound with sutures, it would be infinitely better for the patient to trust to nature than to employ sutures in a bungling way. The sutures should be introduced as follows: The needle, held in the groove at right angles to the forceps, should be entered in the skin exactly at the edge of the wound, and as far down as the deepest part; it is then carried into the tissues and made to describe the arc of a circle and emerge at the margin of the mucous membrane of the vagina. The needle is again introduced on the opposite side and carried through as before, and brought out at the point in the skin opposite where it was first entered. If this is properly done, the position of the suture in the tissue will be as represented in Fig. 6.

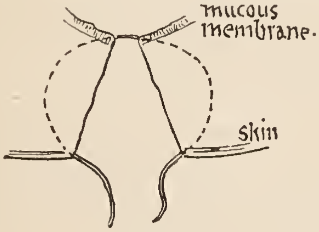

Fig. 6.

The center lines represent the sides of the wound and the dotted line shows the suture, which describes a circle, the point at which the suture is tied and the opposite point of its circumference being at the upper and lower angles of the wound. There are three advantages in using the suture in this way: First, the ends of the suture coming out at the edges of the wound hold the parts exactly together without the aid of superficial sutures; second, the curve which the suture takes deep under the tissues brings the central portions of the wound together, whereas, if the suture is passed straight through the tissues, the edges of the wound would curve inward, while the central parts would not meet. Fig. 7 shows the parts adjusted by a proper suture, while Fig. 8 shows the effect of the imperfect one. Again, the suture running deep into the tissues gives additional surety of catching the ends of the muscles so as to reunite them, which is the chief object of the operation. In the primary operation—i. e., the introduction of sutures immediately after the injury occurs—Peasles's needle is easier to use than the ordinary perineal needle. Fig. 9 shows the instrument. This needle, with a handle, and an eye near the point, is armed with a thread and passed through the tissues as already described, and the end of the suture is passed under the thread in the needle; this is then withdrawn and brings one end of the suture into the tissues. The operation is repeated on the other side, which completes the introduction of the suture. The only advantage of this needle is that it is easier to manage than the ordinary needle. It can only be used, however, in the primary operation. The silk suture properly prepared is by far the best for the immediate operation. Silver wire, which at one time was the only suture which could be relied upon, has been superseded by others that are vastly superior for this purpose. It is impossible to keep the parts clean after confinement without causing pain while the ends of silver-wire sutures are projecting from the parts. The silk sutures save the patient much discomfort, and are not in the way of the means necessary to keep the parts clean.

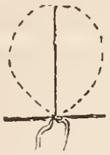

Fig. 7.

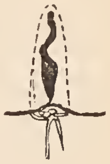

Fig. 8.

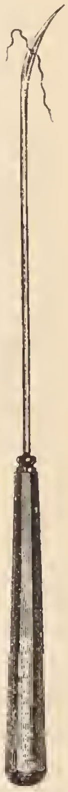

Fig. 9.

This constitutes the whole primary treatment of injuries of the pelvic floor, as given in our text-books—a kind of management generally sufficient in central lacerations, but that can have little influence in restoring the other forms of injury. To secure the reunion of the muscles that have been lacerated subcutaneously, especially the levator ani, the parts should be well supported and kept at rest. If the pelvic floor is permitted to remain in its relaxed and displaced position there is but little chance of the lacerated muscles uniting, nor, in case they are simply overtaxed by distension, will they regain their tonicity promptly if left unaided by support. Especially is restoration likely to be prevented if the patient is permitted to assume the erect position too soon, and if, to increase the injurious effects of this unwise liberty, the uterus is crowded down into the pelvis by a compress and tight bandage applied around the body. In all cases of injury in which concealed laceration of the muscles is suspected, the pelvic floor should be supported well with a compress and bandage fastened to the abdominal binder. By these means the severed ends of the muscular fibers are brought nearer together, so that they have a better chance to unite. An objection would naturally be raised to this treatment in the fact that it would obstruct the free flow of the lochia. This can be overcome by making the compress of absorbent cotton, antiseptic gauze, or marine lint, and draining the vagina with a drainage-tube or a strip of gauze or lint. I believe that in this way the vagina can be drained and kept as clean as it can by occasional douching. In fact, I am inclined to think that the very frequent use of vaginal injections so generally employed in this age of antiseptic obstetrical practice often tends to retard the restoration of injuries of the pelvic floor. It is well, also, to let the patient rest upon either side after the first twelve or twenty-four hours. This position takes off all pressure from above and favors the upward inclination of the pelvic floor. Great care should be taken to avoid distension of the bladder and rectum. Constipation after confinement is almost sure to prevent or, at least, retard recovery. By attending to these simple means much can be done toward preventing that incurable condition, permanent paralysis from atrophy.

After convalescence from confinement, in case it is found that, although there is no complete loss of muscular action in any part of the pelvic floor, there is a muscular weakness shown by the impaired power of resistance to pressure, the supporting treatment, with judicious rest and exercise well regulated, should be kept up until strength is restored.

The restoration of the function of the muscles, as already stated in speaking of general treatment, is also the great object of all surgical operations for the relief of these injuries of the pelvic floor. It matters not how much tissue may be gathered together and united in the region of the perineal body, it will have no functional action if destitute of muscular tissue. The success of all surgical procedures depends upon the restoration of the muscles, elastic tissue, and fascia, and not the mere uniting of the tegumentary and areolar tissue.

In this plastic operation, known as perineorrhaphy, or restoration of the perinæum, much surgical skill is necessary in order to succeed. This is true of all operative surgery, and yet special care is necessary in this operation, because union by first intention must be secured or else the operation will fail. In many operations in surgery, if the wound does not heal by first intention, union may be secured by granulations and a perfect result obtained; but in the operation under consideration, if the whole or any part fails to unite promptly, partial or complete failure is the result. This calls for the employment of all known surgical means most favorable to prompt healing. On this account, then, some general considerations regarding plastic operations in gynæcology will be in place before describing the methods of operating. What will follow on this subject will apply equally to all operations about the pelvic floor and pelvic organs, especially lacerations of the cervix uteri.

The following may be given as the conditions necessary for the healing of the wounds in question.

1st. A condition of the wound and of the general system favorable to the repair of injuries.

2d. Perfect coaptation and retention of the parts to be united, and protection of the parts from extrinsic and offending agents during and after coaptation.

If these conditions are all secured, success must of necessity follow. The management of wounds is not a matter of blind chance. The process of repair in living tissues is governed by definite laws which are always the same under identical circumstances. To obtain the conditions necessary to the fulfillment of these laws is often difficult and sometimes impossible; still, the nearer we come to all the requirements the more surely will the desired ends be accomplished.

The first of these conditions, viz., good general health, may be found wanting in many ways and degrees which are too familiar to require notice, but there are some of these which may be mentioned because they are very often overlooked—preoccupation of the system by some highly taxing function, like lactation, for example, and certain deranged states of the nervous system. These certainly have an important bearing upon the healing of wounds, although little if anything is said in our works on surgery regarding them. In fact, there is good reason for believing that enfeebled states of the nervous system have much to do with retarding the healing of wounds, even when the general nutrition appears to be normal. We frequently hear surgeons say that patients recover from injuries much more promptly when they have courage and hope without fear; but exhausted and irritable states of the nervous system retard the process of repair, although the patient may be indifferent or perfectly satisfied in regard to recovery.

Regarding the unfavorable conditions of the tissues generally met with, the following are the most important: First, contusions accompanying wounds caused by parturition.

Lacerated wounds of the pelvic organs often heal promptly if well coaptated immediately after they occur, but no such union should be expected in case the tissues are greatly contused. While this is true of the immediate treatment of wounds sustained during labor, it is pretty definitely settled that operation wounds made during the process of involution—that is, within four or six weeks after confinement—often fail to unite. From this we learn that while tissues are undergoing involution they are not in the best condition to heal; and also that, when involution is delayed beyond the usual time, treatment should be employed to complete the process before undertaking plastic operations.

Scrupulous care is also required in preparing the tissues by making clean, accurate incisions which will give smooth surfaces to the parts to be united. Old scar tissue should also be removed from all wounds where union by first intention is desired. These are rules in surgery which are well known, but they are sometimes overlooked in practice.

Hæmorrhage.—Hæmorrhage in these operations is often a source of difficulty and delay to the operator, but, worse than that, it is sometimes the cause of failure. In the vast majority of surgical operations all that is required of the surgeon is to arrest the hæmorrhage, by any of the ordinary means, in order to secure a good result; but in the operations in question, if some kinds of styptics have to be used, they prevent union. Cases differ so very much in regard to hæmorrhage that I have given much thought to the predisposing causes of this bleeding tendency, so marked in some patients. The hæmorrhagic diathesis in its most typical form is generally found in men, but a less marked hæmorrhagic tendency is common to many women, who are very unpleasant subjects to operate upon. During the past few years it has been my misfortune to meet with quite a number of cases in which the bleeding tendency was noticeable. The cause of this in most of them, I think, was impaired general health, due to exhausting conditions of life rather than to any congenital imperfection of the blood itself. Another very important element I have found to be mechanical interruption of the circulation, the pelvic organs becoming congested from retardation of the portal circulation, induced by hepatic disorders, sedentary habits, tight lacing, and so forth. The products of former pelvic inflammations, such as pelvic cellulitis, also tend to maintain a hyperæmic state of the pelvic organs; this we often find long after all evidence of active inflammation has subsided. The condition at the time also is often favorable for bleeding; the well-defined vascularity which exists in conditions such as imperfect involution insures hæmorrhage in all operations undertaken during such unfavorable states. The possible hæmorrhage from such causes can be avoided by the proper selection and preparation of cases before operating.

The rule which should be followed in this matter is to secure the best possible state of the general health of the patient, and to reduce all hyperæmic states of the pelvic organs as far as possible. This is generally possible to a great extent, because the object of plastic operations is to restore the organs to their original form and structure, differing in this regard from many other operations in surgery which have for their object the removal of diseased parts.

In carrying out this plan of treatment, however, there is one difficulty encountered in practice; when the patients are ill and suffering they will gladly accept an operation which promises them relief, but, when they are relieved from pain and have gained in health, they hesitate about undergoing any surgical treatment which is designed to keep them from suffering in the future. This, however, does not prevent the surgeon from doing otherwise than that which is best. There are patients—fortunately very few—who have the hæmorrhagic diathesis sufficiently marked to debar them from operations, and it is doubtful if any preparatory treatment will change this constitutional peculiarity. Such subjects should be let alone; to operate in these cases is dangerous, and almost always ends in failure. I have had three such cases in the past five years; two of them were operated upon before discovering their peculiarity, the results being depletion of the patients without any benefit from the operation, and the development of extreme caution on the part of the operator in selecting cases in future. The third case was diagnosticated earlier, and I declined to operate.

The management of bleeding vessels in these operation wounds is of great importance. All hæmorrhage should be arrested before bringing the parts together, because a slight oozing, which would do no harm in a wound to be treated by open dressing, may prevent union in wounds in which drainage should not be employed, or, at least, should not necessarily be required. This often requires an amount of time which the surgeon reluctantly bestows, but success in treating this class of wounds depends largely upon attention to this matter. Still more, the means used to arrest hæmorrhage should be such as will not interfere with the process of healing. Hitherto the means used have been ligation or torsion of the large vessels, and for minor bleedings the use of ice or cold water. More recent experience has pointed out objections to these means. Chilling the tissues by cold is injurious, it is said, and no doubt the statement is true. It has, fortunately, been found that hot water is more efficient in controlling hæmorrhage, and its effects upon the tissues are not unfavorable—hence its use as a styptic in these operation wounds is strongly commended. Torsion is objectionable, because it is less certain to control bleeding than the ligature, and quite as liable to give rise to suppuration. In view of this fact, it may be said without doubt that the antiseptic ligature is the best means of controlling the vessels in these wounds. Regarding the material to be used as a ligature, it may be said that that which can be inclosed in the wound without giving subsequent trouble is the thing required. The properly prepared catgut ligature fulfills the indications. Some recent experience indicates that the Japanese ligature, made of whale-sinew, is the best, owing to its being absorbed with great facility. Occasionally, in deep lacerations, a small artery on each side may require to be ligated; the chief arterial bleeding, however, comes from the upper portion, the small vessels coming apparently from above downward in the areolar tissue, between the rectum and vagina. These sometimes bleed quite freely, and they are not controlled by tightening the sutures, which arrest the hæmorrhage at points lower down. Such vessels I control by passing a needle through the vaginal mucous membrane above the denuded surfaces, and thus carry a ligature under the bleeding vessels, tying it over the free surface, checking the bleeding on the principle of acupressure. The sutures can be left in position until the perinæum has completely healed; they can then be removed with the aid of the speculum. Occasionally it becomes necessary to ligate some of these vessels which bleed persistently and can not be controlled in the way I have previously described; it is then well to ligate them with a fine catgut ligature, the ends being cut off short and inclosed in the wound.

In spite, however, of all precautions, secondary hæmorrhage will occasionally occur after this operation. I have met with four such cases in my practice; in one of them it occurred on the seventh day after the operation. In all of them the bleeding took place from the upper or vaginal portion of the wound, the blood flowing into and widely distending the vagina before appearing externally.

In my first case I was obliged to remove the sutures, empty the vagina of blood-clots, and ligate the bleeding vessels. This resulted in spoiling my operation, for, although I reintroduced the sutures, union did not take place. This hæmorrhage occurred on the second day.

In my three subsequent cases I secured much better results. Introducing a Sims's speculum on the *anterior* side of the vagina, I removed the clots and blood by sponging, and then, throwing light into the vagina by means of a concave reflector, I was able to see that the blood welled up from the upper portion of the wound. In place of pulling the edges of the wound apart and searching for the bleeding vessels, I passed a curved needle and ligature down and around the place where the bleeding came from, and was able, by tightening my ligature moderately, to control the bleeding entirely. These cases subsequently did well, and the result of the operation was good.

Sutures.—The coaptation of the tissues by means of sutures requires more than a passing notice.

The success which J. Marion Sims obtained with the silver-wire suture led at once to its general use in gynæcological operations. There is, however, good reason for believing that the results obtained by that great surgeon depended as much upon his skill in using sutures as upon the material which he used.

To-day we know that it matters little whether silver-wire or well-prepared silk sutures are used, provided they are properly introduced. The parts to be united should be brought together and held there without any straining upon the sutures. It is equally important to introduce the sutures so that they will prevent the incurving of the undenuded edges of the parts to be united, and, finally, a sufficient number of sutures should be employed to secure uniform retaining pressure at all parts of the wound.

These are facts which every one is supposed to know before engaging in surgery, but in practice a large number of failures are seen because of neglect in regard to them.

The management of these wounds during the healing process differs somewhat from the modern treatment of wounds in general.

Dressings.—The antiseptic dressings which surgeons use in some form or other are difficult of application in the operations for restoring the cervix uteri and perinæum. So fully is this the case that some of our highest authorities on gynæcology make no pretensions to using antiseptic treatment in such wounds, unless frequent bathing of the parts with water and carbolic acid may be called such. No doubt some of our best operators get good results with this kind of after-treatment, but it is more than probable that still better results can be obtained by treatment more in accordance with the rules of antiseptic surgery. Viewed in the light of modern investigation, it appears that the frequent douching of wounds with carbolized water is a practice at least ten years behind the surgery of to-day.

In treating wounds of the perinæum there are many perplexing difficulties in the way of obtaining a proper antiseptic dressing. Here, also, the vaginal douche has been freely used for the purpose, it is said, of removing vaginal secretions which might irritate the wound and prevent its healing. Such treatment is generally unnecessary, if not injurious. In all operations for repairing old injuries of the perinæum it is better to first cure all uterine and vaginal diseases which give rise to abnormal discharges. That is the only sure way of protecting the operation wound from that source of disturbance. This, of course, can not be accomplished in the treatment of lacerations immediately after confinement. Then it becomes a very important question how to protect the perineal wound from the lochia. Various means have been suggested for this purpose, such as coating the vaginal surface of the wound with collodion, placing carbolized lint or borated cotton upon the inner portion of the wound, and, the most common of all, the frequent use of vaginal injections. It is hardly possible to say, at the present time, which is best. The collodion has not been tried often enough to speak positively regarding it. In using the lint or cotton there is danger of separating the edges of the wound, the very thing of all others to be avoided. Perhaps the best treatment, after carefully cleansing the parts and bringing them accurately together, is to let the wound alone for about two days, trusting that during this time it may become sufficiently protected, by a coating of fresh lymph, to resist the subsequent discharges. After the lochia begin to decompose, the frequent use of the vaginal douche is advisable, and should be continued until the union is completed.

In the secondary operation for restoring the perinæum, the vaginal portion of the wound may generally be left alone. It is protected from the air by the anterior vaginal wall, which makes a suitable dressing provided the uterus and vagina are in a normal condition, as they should be, before the operation is done. If suppuration takes place and pus is discharged into the vagina, it should be disposed of by injections. The outer portion of the wound may also be left without dressing, but it is better to apply lint or cotton upon each side of the sutures; if silver wire is used, or if silk is employed, the lint can be placed over the wound and retained in place by keeping the limbs together. The advantage of this kind of dressing is that it absorbs any discharge that there may be.

Perhaps the most important point of all in the management of such cases is to keep from spilling urine upon the wound. The most scrupulous care should be taken to close the end of the catheter in withdrawing it. If this is neglected, a few drops of urine will escape from the eye of the instrument, and, falling upon the wound, will cause trouble. The nurse should be carefully instructed to use the catheter in this way, and, to make doubly sure of cleanliness, a little absorbent cotton should be placed between the meatus urinarius and the wound every time the instrument is used.

Notwithstanding all this care, suppuration will sometimes occur, and then the question arises how to manage this complication. If the suppuration is limited to the track of one suture, that one may be removed and the remaining ones trusted to keep the parts together. It sometimes happens that a cellulitis which begins in the region of the sutures extends outward and ends in suppuration. This should be treated by a free incision and drainage, which may save the operation. On the other hand, if suppuration takes place between the surfaces to be united, there is very little hope of obtaining union at all by any kind of treatment. A partial or even complete success may be obtained in such cases if the suppurative process is detected early, and drainage from the lower edge of the wound is established. This can be effected by loosening one or more of the sutures, and then introducing carbolized silk thread or catgut to secure the free escape of the inflammatory products.

(*To be continued.*)

EPILEPSY

CONSIDERED AS A CAUSE OF DEATH.*

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THE literature upon this subject is rather limited, owing, in many instances, either to the indifference or neglect of physicians to watch and record the phenomena of epilepsy at its closing period. The disease being recognized as chronic, and so largely unamenable to treatment, the vast majority of cases are practically lost sight of in the way of observation after being well established. Asylum experience furnishes some facts of importance in elucidation of this subject, and my object in presenting this contribution *is for the purpose of establishing corroborative evidence in regard to death during the epileptic paroxysm, or as an immediate result of the convulsions.* Few, perhaps, are aware how largely epileptics figure in asylum statistics; but in these may be found most of the many failures in the treatment of this disease by the general physician.

In the various State and county asylums and poorhouses in New York State there are about 12,231 insane persons, among whom are to be found nearly 800 epileptics.

In an article published in 1868, by Dr. G. Mackenzie Bacon, of the Cambridge County Asylum, England, he writes: "The immediate cause of death in epilepsy is a matter which is not always easily solved, and one which is not often discussed in works on medicine, most probably from lack of information. This silence on the part of writers is not to be wondered at when one considers how few epileptics die in hospitals, or under the observation of the more learned teachers of medicine; for, as such patients are generally incurable, and also unpleasant companions, they seldom figure long as in-patients. But there is another cause far more active, and connected with the nature of the disease, viz., that, inasmuch as the mind always suffers from prolonged epilepsy, in a certain time the victims of this disease, or at all events a large proportion of them, disappear from society, and require seclusion in an asylum, where they are lost to the world." †

According to the views expressed by numerous authors in reference to the prognosis in cases of epilepsy, death, as the direct effect of the convulsion, seems to have been a rare occurrence in the experience of the majority, although some writers refer to such cases as occurring in the experience of others.

Dr. J. Russel Reynolds writes: "The danger to life is somewhat remote, and need scarcely be entertained. It is excessively rare for an epileptic to be killed by or die in one of his attacks. . . . I have never yet known a case in which the attack proved fatal." *

In his practical treatise on "Diseases of the Nervous System" Dr. W. A. Hammond states: "I have never, in my own experience, known death to take place during a paroxysm of true epilepsy; such cases, however, do occur. . . . So far as regards the occurrence of death during the paroxysm, the convulsive form is more fatal." †

Ross, in his exhaustive work on nervous diseases, says: "Epilepsy is essentially chronic, and may last for years, and, although death occasionally occurs during a paroxysm, this is exceedingly rare. . . . The danger to life is remote, since it is rare for an epileptic to die in one of the attacks." ‡

Bristowe writes that "very rarely the fit itself proves fatal without extraneous aid; when it does, the patient dies from asphyxia during its first stage, or from exhaustion or coma during the continuance of the *status epilepticus.*" #

In Niemeyer's text-book of "Practical Medicine" we find the following remarks: "But, although epileptics seldom recover fully from their disease, and although they are not often long-lived, yet they rarely die during an epileptic fit in consequence of suspended respiration, or of extravasation of blood into the brain, or of general paralysis during the comatose state which follows the fit. Their death is much more frequently due to the progress of cerebral disease which has given rise to the epilepsy, or to the effects of injuries which the patient has received during his paroxysms, and, oftener still, he dies of some acute or chronic affection which is in nowise connected with the epileptic disease." ‖

In his article on Epilepsy in Quain's "Dictionary of Medicine," Brown-Séquard says: "In some epileptics who have a series of fits in rapid succession, there is a more or less prolonged period of coma after each attack. Sometimes in such cases death terminates the scene after a more or less considerable number of attacks."

The fact that patients die while in the epileptic paroxysm can not be questioned, but is not so generally accepted.

In some cases the patient has no sooner come out of one convulsion than another one begins, until finally they follow one another in such rapid succession that consciousness is not restored between the attacks. This constitutes the condition known as the *status epilepticus* (état de mal épileptique), and is of extremely serious import.

In 1873 Bourneville published a monograph in which he describes this condition, and it is probably the best treatise on the subject extant.

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* Read before the New York Neurological Society, February 3, 1885.

† "Lancet," 1868, vol. i, p. 555.

* Reynolds's "System of Med.," vol. i, p. 779.

† "Dis. of the Nerv. Sys.," p. 703.

‡ Ross, "Dis. of the Nerv. Syst.," vol. ii, pp. 293 and 941.

# Bristowe's "Practice of Medicine," p. 1000.

‖ Niemeyer, "Practice of Med.," vol. ii, p. 363.

According to this author, the *status epilepticus* is characterized: 1. By the frequent repetitions of the fits, which may even become almost continuous with one another. 2. By a variable degree of collapse, which may deepen into the most profound coma, unattended by any return of consciousness. 3. By a more or less complete hemiplegia, developing after a variable duration of the symptoms. 4. By increased frequency of the pulse and respiration. 5. By a considerable elevation of the temperature, which persists in the brief intervals of the fits.

Bourneville divides the affection into two periods—viz., a convulsive and a secondary meningitic stage.

The prodromes do not differ in any respect from those which are usually experienced by the patient prior to his ordinary attacks of convulsions. But the fits, instead of ceasing, follow one another rapidly, and before the epileptic coma has entirely disappeared another convulsion makes its appearance.

The intervals between the fits become shorter and shorter, until they run into one another, and finally the patient appears to be in one long-continued convulsion. The pulse is regular but usually small; the respirations become frequent and labored. The temperature begins to rise from the very beginning, and may rapidly reach a height of 104,° 105,° or 107° F., and upward.

The skin feels hot and scorching; the face is covered with an abundant viscid sweat. Marked nystagmus is present, and the face and neck may be drawn to one side. The pupils are dilated either equally or unequally on the two sides, and do not react normally to light.

After the convulsions have lasted for some time, hemiplegia develops in a large number of cases, the face and limbs being affected as in ordinary cerebral hemiplegia.

When the limbs on the paralyzed side are lifted up and then allowed to fall, they drop like inert masses. The sensorial and intellectual functions are totally abolished, and the patients lie in a profound stupor which often deepens into coma. Contracture sometimes occurs, and involves the muscles of either the jaw, neck, or limbs.

These contractures are especially produced after the cessation of the fits, or when they are becoming more infrequent. Death may occur in this stage in a condition of extreme cyanosis, due to the violence and frequent repetition of the convulsions. The number of the fits varies. In one of Bourneville's fatal cases the patient had twenty fits on the first day, forty-five on the second day, twenty-two on the third day, twenty-seven on the fourth day, and twelve on the fifth. Recovery may also occur in the convulsive period, and in such cases, of course, the second stage is absent.

Secondary or Meningitic Stage.—At the close of the first stage the convulsions become more infrequent, and then cease, but another series of symptoms develops. The intelligence is more or less affected, and the patient is in a state of hebetude or coma. At intervals this condition may be replaced for a few moments by maniacal delirium, which is often very violent, and is sometimes accompanied by hallucinations.

The tongue is dry and coated, sordes are found upon the teeth, and nutrition is profoundly disturbed, the whole body becoming rapidly emaciated. At this time bed-sores may make their appearance, varying from a simple erythematous patch to a more or less extensive necrosis of the skin. The situation of these bed-sores is not by any means so fixed as in cerebral hæmorrhage or softening. They may involve: 1, The sacral region; 2, the buttocks; 3, the fold between the buttocks; 4, the skin covering the great trochanters. In addition to these symptoms, the temperature, which had begun to fall after the subsidence of the convulsions, again rises. The entire group of symptoms may now increase in severity, the vital forces rapidly fail, and the disease progresses to a fatal termination. Or, on the other hand, the collapse diminishes, the functions of the skin become more normal, the tongue clears, the temperature again sinks, and in a few days the patient is restored to his ordinary condition of health.*

In asylum practice the deaths recorded as being due to "epilepsy" occur under four different conditions, viz.:

1. During or immediately succeeding the fit, either by asphyxia, apoplexy, or in some cases explained only by profound shock to the visceral centers.

2. By or during the *status epilepticus*, either in profound coma during one of the convulsions, or from rapidly supervening exhaustion after coma has subsided.

3. Gradually or suddenly from exhaustion ensuing upon an unusual or abrupt increase in the number and severity of the convulsions. (This condition I shall describe as "a succession of fits followed by stupor.")

4. From accidental extraneous causes occurring during the fit, such as suffocation while in bed, fracture of the skull, or other severe injuries.

Bucknill and Tuke,† in their exhaustive treatise on insanity, cite the following instructive case:

"At the Devon Asylum we tried Marshall Hall's remedy for epilepsy—namely, tracheotomy. Marshall Hall maintained that the *grand mal* was occasioned by spasm of the glottis, producing temporary suffocation and coma from undecarbonized blood. And in one instance, at least, we fondly thought that we had established the truth of his theory.

"A robust young woman, subject to severe epilepsy and maniacal excitement following the attack, wore a silver tube in her trachea for many months—we think it was for more than a year—and during this time the fits became exceedingly slight and were followed by no mental excitement; but, alas! the end of it was that a great accession of epilepsy took place, fit succeeding fit, in what has been called the *status epilepticus*, and we had to watch her, as she died comatose with the tracheal tube in position.

"She was suffocated by spasm of the pectoral muscles of respiration and of the diaphragm, although the tracheal opening into the lungs was absolutely free."

The following twenty cases of "death from epilepsy," some of which were observed by the writer, were in inmates of the New York City Lunatic Asylum, and through the courtesy of my friend, Dr. Thomas M. Franklin, the medical superintendent, I am enabled to present the accompanying abstract histories.

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* Putzel on "Functional Nervous Diseases," 1880, p. 51.

† "Psychological Medicine," p. 749.

This asylum, which is under the supervision of the Commissioners of Public Charities and Correction, is situated near the northern extremity of Blackwell's Island, and is exclusively for the care and treatment of females.

There are 1,521 patients in this institution, among whom are 90 epileptics.

Those affected with epilepsy are confined in one large ward, or pavilion, as it is called, which contains upward of seventy patients. All of these unfortunates are hopelessly insane, and are either maniacal or demented. It seems to be a wise provision of Providence that so many should die during the seizure.

Any one who has watched the progress of cases of this nature would ultimately conclude that the most fortunate event that could take place in regard to the relief of these epileptics would be, that they should all be simultaneously attacked and terminate their career in the *status epilepticus*.

This gregarious method of caring for epileptics has no deleterious effect upon them, as it might have in cases where chronic insanity is absent. This is the most unfavorable class of patients, and the most difficult to manage of any to be found in the asylum. Certainly, it is to be understood that, in the classification of patients, there is some discrimination made in reference to epileptics who have recently become insane and have only occasional epileptic attacks.

These are treated in other wards of the asylum, and not allowed to associate with those who are similarly affected. During the year 1879 I had personal charge of the "epileptic ward" above mentioned. All of the patients were females whose ages varied from sixteen to sixty years, and numbered in the neighborhood of seventy-eight. One of the duties of the attendant was to record the name of each patient and the number of fits experienced during the twenty-four hours, also the total number of fits occurring in the ward during the same period. The aggregate number would vary from ten to sixty fits during the twenty-four hours. At this time the patients had received no special treatment for several months. As a matter of experiment and observation, every patient in the ward was given the "bromide mixture" two or three times a day (in conjunction with tonic treatment where indicated), in doses regulated in accordance with the severity of the case, with the result, after ten days' treatment, of reducing the number of convulsions in the ward to one fit daily, and at the end of two weeks from the time that the systematic administration of the medicine was first instituted there were no attacks in the pavilion for three days. The use of the drug was continued without interruption for nearly six weeks, only an occasional paroxysm occurring to disturb the equanimity of the attendants or to indicate that an abortive attempt had been made to sustain the reputation of the pavilion. The patients themselves manifested no activity to speak of, as they had been quite apathetic and oblivious for some time, when, through some accidental delay in the delivery of the "drug supplies," the use of the medicine was abruptly discontinued, and, horrible to relate, on the following day nearly sixty fits occurred in the ward.

In the greater number of these cases large doses became necessary before the convulsions were controlled.

Although in almost every case either the number of attacks decreased in frequency, or those which did occur were diminished in severity, and in most instances entirely ceased while the patient was taking the bromide, still the largeness of the dose required to produce the desired effect proved incompatible with the general health of the individual, and, after various approved methods, both in the gradual diminution of the quantity and the changes in the combinations, the treatment was, after a fair trial of nearly nine months, abandoned as unsatisfactory. The amount of the bromide administered was regulated according to the condition of the women, some receiving forty-five grains a day, while the dose required for others ranged between sixty and one hundred and eighty grains daily.

Case I.—Harriet M., born in United States, aged thirty-three, widow, occupation embroiderer, habits temperate. Admitted May 21, 1875. Patient comes from Epileptic Hospital. Epilepsy first manifested itself after parturition, twelve years ago. Intelligence and memory are much impaired. Has numerous delusions; hallucinations of sight and hearing. Is violent, noisy, and destructive. Has severe epileptic convulsions frequently. Some days she will have six or seven fits. There are irregular intervals of a few weeks, but she averages one or two attacks daily. This is a description of her condition during the past three years. On the morning of the 24th of December, 1878, she arose as usual, ate her breakfast in the dining-room in company with the other inmates of the ward, and was seen by the attendant at 10 A. M., but nothing unusual was noticed. At 10.30 A. M. she was found dead in her bedroom, lying on her back upon the floor, her face, neck, and upper extremities being markedly cyanosed.

Autopsy, twenty-four hours after death.—Body well nourished. Rigor mortis marked. Face and neck livid. Hypostatic congestion of all dependent parts. Heart, lungs, liver, and kidneys normal. Larynx showed no abnormity. Blood, fluid and of a very dark color. Veins markedly congested. *Brain*, large quantity of subarachnoid fluid. Arteries normal and empty. Brain substance œdematous and anæmic, otherwise normal.

Case II.—Caroline E., Germany, aged thirty, married, saleswoman, temperate. Admitted November 6, 1877. She is very emotional, continually praying and crying on account of her many sins, depressed, and apprehensive. Has delusion of persecution, etc. Attacks other patients without provocation.

June 8, 1878.—Mild epileptic convulsion, followed by hemianæsthesia.

August 24th.—Suicidal.

December 28th.—Violent and quarrelsome, and has fits at irregular intervals.

January 11, 1879.—At 2 P. M. she had an epileptic convulsion which lasted nearly twenty-five minutes. She then lapsed into a semi-comatose state, occasionally vomiting, and remained in this condition for three hours. At 5 P. M. she had another fit, which was rapidly succeeded by others—in all about six or seven by 8 P. M., when the fits recurred regularly at intervals of ten minutes, and in a few hours they became almost continuous. By this time she was in profound coma, and remained unconscious until death supervened at 10 A. M., January 12th. Time from attack till death was twenty hours.

Autopsy, twenty-eight hours after death.—All of the viscera showed intense venous congestion. *Brain*, meningeal injection. Brain substance intensely congested, but otherwise normal.

Case III.—Eliza B., United States, aged nineteen, single, no occupation, temperate. Admitted March, 1868. Patient is an epileptic, with right hemiplegia and contracture, with atrophy of upper extremity. Epilepsy was first manifested after a fright which occurred when she was about sixteen years of age. She has frequent maniacal attacks after the convulsion, and these paroxysms generally take place at the menstrual period. She was discharged from the asylum as unimproved May 1, 1868, and was readmitted August 25, 1879, with the statement that her condition had not improved, and that the epileptic and maniacal attacks had become more frequent.

November 20th.—Had ten fits since last admission.

January 30, 1880, 12 M.—In protracted and violent convulsions during the past hour, and is comatose. Face markedly cyanotic. Breathing stertorous. Dysphagia. Nystagmus. Temperature elevated. Pulmonary congestion and œdema. Six ounces of blood taken from arm; ice-cap to head, and counter-irritation over nucha. Cyanosis was rapidly relieved by the depletion from venesection, and convulsions ceased at 2 P. M.

31st.—Conscious this morning, and recovering. Pulmonary œdema subsiding.

February 4th.—Physically much improved; mentally unchanged.

21st.—Several violent convulsions during the last twenty-four hours, and is now suffering from exhaustion.

May 6th.—Seven fits in two hours.

July 13th, P. M.—Succession of fits lasting nearly two hours. Comatose. Pulse 80 and feeble. Respirations 48, shallow and jerky in character. Temperature 99·5° F. Pupils dilated and reactions lost. Face extremely pale.

14th.—This A. M. coma more profound. Has an occasional slight convulsion. Face flushed. Strong pulsation in carotids. Temperature 100·5° F. Toward evening the pulse was almost imperceptible. Respiration 60, temperature 100° F. Physical signs of pulmonary congestion and œdema. Died at 11 P. M. Duration of attack about twelve hours.

Autopsy, fourteen hours after death.—Calvaria three quarters of an inch thick anteriorly, and near occipital portion one half inch in thickness. Dura mater very much injected. Pia mater over convexity intensely congested, being more marked on left side. The left ascending frontal convolution atrophied and somewhat indurated, corresponding with the position of the more thickened portion of calvaria. Vessels at the base normal. Ventricles distended with fluid. Brain substance œdematous and pale. Pulmonary congestion and œdema. All other organs the seat of passive congestion.

Case IV.—Julia G., United States, aged twenty, single, temperate. Admitted April 12, 1878. Epilepsy commenced in childhood, and an interval of three years elapsed before the attacks returned. She is maniacal and violent after the convulsion, and is worse during menstruation.

April 21, 1879.—Fits almost continually during the last four days. Is semi-comatose.

22d.—Emerged from comatose condition and has returned to her usual state.

November, 1880.—Occasionally maniacal, being violent and destructive. Has frequent epileptic seizures. Most of the time she is demented.

1881.—Unchanged since last note.

May 1st.—Succession of fits during the last four days. Profoundly comatose, and died thus at 8.50 P. M. No autopsy.

Case V.—Minnie C., Germany, aged twenty, single, temperate. Admitted January 5, 1872, from Epileptic Hospital. In poor physical condition. Has visual hallucinations.

January 7th.—Is maniacal, noisy, violent, etc. Smeared her face and body with fæces, and also decorated the walls of her room with the same material.

February.—Has frequent epileptic seizures which are occasionally preceded, but generally followed, by a maniacal paroxysm. Demented in interval.

1877.—Unchanged since last note. Fits have become more frequent.

November 6th.—Arose during the night and, without provocation, attempted to strangle another patient.

December.—Thirty-one fits this month.

1879.—Physical condition good. Mentally unchanged. Convulsions occur frequently, and are very severe.

March 20, 1881, A. M.—Thirteen violent fits since last night

21st.—Last night fits continued at intervals of one hour. At 2 A. M. convulsions ceased, and she was in such an exhausted state that she did not have sufficient strength to get up another fit.

March 22d, A. M.—Has been comatose since last note. Pupils contracted. Pulse 120 and feeble, temperature 99° F. Signs of pulmonary œdema.

P. M.—Still comatose. Pulse 128, temperature 99° F. Slight dysphagia. Under stimulating and restorative treatment, the stupor gradually subsided until she returned to her usual condition of consciousness.

23d.—This A. M. temperature and respirations normal. Pulse 100 and stronger. Pupils normal. Seems to be improving.

24th.—Died suddenly at 3 P. M. Time from attack till death, eighty-eight hours. No autopsy.

Case VI.—Bridget C., Ireland, aged thirty-four, single, temperate. Admitted June 7, 1877, from Charity Hospital. Patient has been epileptic for twenty years. She attempted suicide by drowning, and is suffering from an attack of epileptic mania.

June 10th.—Has experienced a large number of convulsions since her admission.

September 30th.—Twenty-four fits in as many hours.

October 19th.—Frequent maniacal paroxysms. Stupid and depressed in interval.

December 30th.—Only six fits in twenty-four days.

February 15, 1878.—One fit in last thirty-one days.

May 30th.—Maniacal paroxysm, seeming to take the place of the convulsion, in which she became very violent and attacked patients and attendants indiscriminately.

February 22, 1879.—Thirty convulsions during last twenty-four hours.

June 23, 1880.—Succession of fits for several days. Semi-comatose. Pulse 80 and feeble, temperature 99·5° F. She gradually recovered from this attack.

October 30th.—Of late she has been quite rational in conversation and manner, excepting the time after a fit, when she invariably becomes violently maniacal.

April 7, 1881.—Succession of fits since midnight. This A. M. convulsions still continue, but at longer intervals. Semi-comatose. Pupils regular and react normally. Pulse rapid, but not very weak. Respirations 24, temperature 99° F.

P. M.—After inhalation of chloroform, fits ceased until two o'clock, when they returned with increased violence and resisted all efforts to control them. She became profoundly comatose, and died during a convulsion at 4 P. M. Time from attack till death, sixteen hours. No autopsy.

(*To be concluded.*)

ENCEPHALIC NOMENCLATURE.*

I. CŒLIAN TERMINOLOGY: THE NAMES OF THE CAVITIES OF THE BRAIN AND MYELON.

By BURT G. WILDER, M. D.

As based upon the condition of things in the adult human brain, the current nomenclature of its cavities has some justification; but, in the light of better methods and wider biological knowledge, it is cumbersome, incongruous and misleading.

Let the learned anatomist lay aside for the moment his familiar (yet how hardly earned!) acquaintance with the parts and their names, and put himself in the place of the beginner who, after gaining a general idea of the arrangement of the vertebrate brain from a frog or *Necturus*, is trying to master the complexities of the mammalian organ from the brain of a cat, dog, sheep, or man.

Leaving the myelon, he finds the "*central canal*" (the name of which in no way suggests association with the nervous axis) expanding into a cavity which, although the first of the series, is called the "*fourth* ventricle." The more or less distinct cavities corresponding to the cerebellum and the *lobi optici* are not called ventricles at all, and the "*third*" is between the thalami. The two "lateral" ventricles are rarely mentioned as the *first* and *second*, but, since these numbers must be understood in order to account for the third and fourth, the student desires, in vain, to know which is the first and which the second. In point of fact, if the enumeration is begun at the cephalic end of the series, the lateral ventricles might be called *third* and *fourth*, since in many vertebrates there are well-developed cavities in the *lobi olfactorii*. Finally, a "*fifth* ventricle" is mentioned, which is not only at the greatest distance from the fourth, but has no normal connection with the others, and is, in fact, no part of the series.†

The entire brain was injected from the basilar artery by the modification of Pansch's "starch method" described by Gage (***19***). It was hemisected just to the left of the meson, so as to leave the falx upon the right, and throw the mesal cavities of that side into stronger relief. The cut surfaces are dotted, with no distinction between *alba*, *cinerea*, *commissures*, etc. The continuity of the *endyma*, or lining epithelium of the cœliæ, is indicated by the heavy black line, interrupted only at the caudal end of the metatele, at the margin of the *Foramen of Magendie.* The *metacœle* includes the cavity roofed by the metatele, and extending to the syringocœle or central canal. The region of the diacœle (third ventricle) is shown on a larger scale in Fig. 3. The transverse thickening of the diacœlian roof, called by me *Commissura habenarum* in the cat (***14,*** Pl. 2, Fig. 4, *cs. h.*), is here named *supracommissura*, in accordance with the suggestion with respect to the corresponding part in the Amphibia made by me to Professor Osborn, and adopted by him (2). The abbreviations signify as follows: *apx.*, auliplexus; *cr. cb.*, crus cerebri; *pcs.*, postcommissure; *sl. m.*, sulcus Monroi; *v. Gln.*, vena Galeni. The "torcular Herophili" is designated by its monomial synonym, *lenum.* The description of the apparently unnamed *Arteria termatica* must be reserved for another occasion.

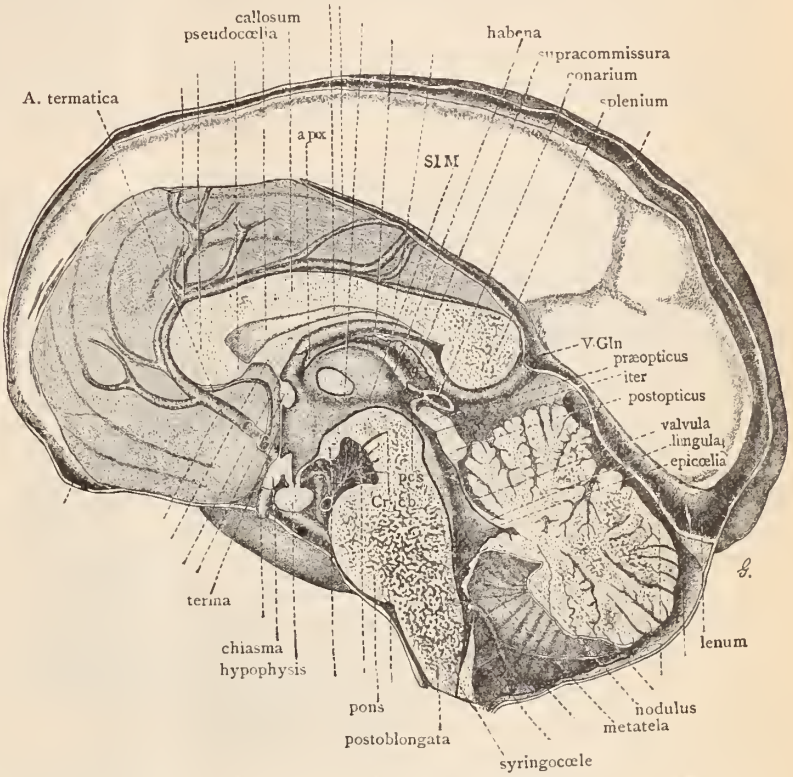

FIG. 1.—Mesal aspect of an adult, male, human, right hemiencephalon; × ·6. Drawn by Mrs. S. S. P. Gage. Accession No. 377, Mus. of Cornell Univ.

In view of all this, the task of describing to students the highways and by-ways of the brain—which should be most attractive because therein is most clearly manifested the ideal arrangement of the organ—is one from which I used to shrink as from any other kind of solemn nonsense. I was even disposed to adopt the simple vocal device employed by Straus-Durckheim in the designation of the metatarsalia—"*padion, pedion, pidion, podion, pudion*"—and to re-christen the ventricles by, for instance, the names *pran*, *pren*, *prin*, *pron*, and *prun*. Monosyllabic and governed by a conventional sequence, such meaningless terms would at least be incapable of misleading.

Nearly four years ago (March 19, 1881), with the special object of simplifying the names of the encephalic cavities, and in accordance with the general plan of replacing poly-

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* Under this head I propose to present certain facts and considerations as to the names of parts of the brain. Most of them were included in the third of the "Cartwright Lectures" for 1884 on "Methods of Studying the Brain," but were not delivered for lack of time. Some of them were discussed in my papers (***35, 39, 40***) before the American Neurological Association (June, 1884), and the Biological Section of the American Association for the Advancement of Science, September, 1884. The mode of reference to publications is explained in the List at the close of this paper.

† Notwithstanding the surprising relations ascribed to it by Wiedersheim (Fig. 210).

nomial by monomial terms,[*] I proposed (***9,*** 125) to (1) substitute for the Latin *ventriculus* the word *cœlia*, from the Greek *κοιλία*,[†] and to (2) correlate the appellations of the several divisions of the brain cavity with one another and with those of the segments by prefixing to the generic word the distinctive prefixes of the technical segmental names, which—for the most part following Quain's Anatomy—had seemed to me most appropriate.[‡]

This gave the following names for the "ventricles" (beginning with the "fourth," which was regarded as consisting of two parts): *metacœlia*, *epicœlia*, *mesocœlia*, *diacœlia*, and *procœlia*,[#] with *rhinocœlia* for each "olfactory ventricle" and *pseudocœlia* for the "fifth" or "false ventricle."

These terms were readily understood by my students, both general and special, and were employed in subsequent publications (***14, 32***), without, so far as I know, exciting any marked comment, favorable or otherwise.

Late in October or early in November, 1883, I received from the author the abstract of a paper by Professor T. Jeffery Parker, "Notes on the Anatomy and Embryology of *Scymnus lichia*" (***2***), which was read before the Otago Institute, August 15, 1882.[‖]

In both the paper and the abstract,[^] compounds of *κοιλία* with segmental prefixes are consistently employed, and one of the terms is virtually identical with mine, namely, *mesocœle.*[◊]

Upon receipt of the Abstract, I wrote to Professor Parker, expressing my gratification at the coincidence (since he evidently was not aware of my previous publications on the subject), asked if he had formulated any scheme for the designation of all the cavities, and submitted that which I had been using for three years. I think it is no breach of confidence to state that his prompt reply contained not only a tabular arrangement of the names practically coinciding with mine, but also an extension of the system to the entire cerebro-spinal axis, which I have accepted.

More recently this modification of encephalic nomenclature—thus almost coincidently introduced on opposite sides of the globe—has been more or less fully adopted by Spitzka ("Am. Jour. Neurology and Psychiatry," iii, 620), Ramsay Wright (***1,*** 362), and H. F. Osborn (***1*** and ***2***), and I feel encouraged to submit to the consideration of neurologists a few additional terms and certain questions involving the general subject of encephalic nomenclature.

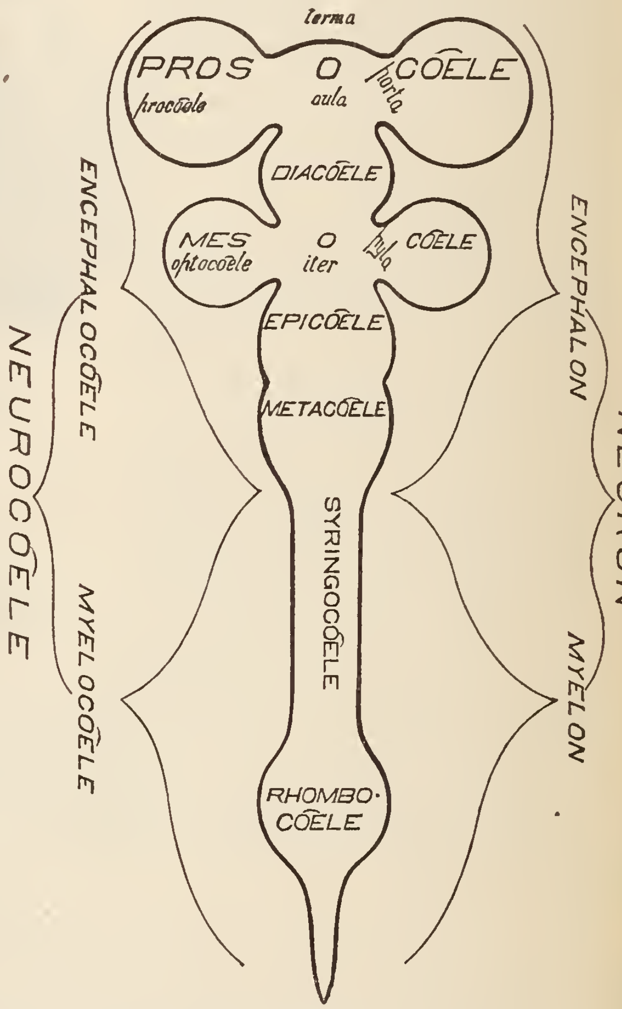

Fig. 2.—Schematic Representation of the Cavities of the Brain and Myelon.

Commentary on Fig. 2.—The neurocœlian parietes are represented as of uniform thickness. The divisions are indicated by more or less marked constrictions or expansions. No name is given to the insignificant cavity of the *conus medullaris* and *filum terminale* constituting the caudal extremity of the neuron. The *rhombocœle* appears to be distinct at some stage with most vertebrates, and to persist with birds. The slight contraction between the metacœle and the epicœle seems to be warranted by some representations of the development of this region, but it is elsewhere suggested that those who admit only one segment between the mesencephalon and the myelon may apply thereto the comprehensive name *metepencephalon*, and to its cavity *metepicœle.* The lateral recesses of this cavity, opening, in man at least, as foramina,* are omitted on account of my doubts (1) as to whether they are metacœlian or epicœlian, and (2) as to their serial representation of the lateral divisions of the mesocœle and prosocœle. A doubt similar to the second has also deterred me from repeating a feature of Fig. 9 of the first "Cartwright" (this journal, March 9, 1884, p. 28), namely, the representation of the diacœlian lateral diverticula by the optic vesicles, which, although obliterated in the adult, are widely open in the embryo. The procœles, or lateral prosocœlian divisions, are purposely made simple in form, and extending caudad as much as cephalad, in accordance with the comparison made in connection with the figure just referred to, between the hemispheres and the legs of the human body in respect to their natural attitude and their normal position. The width of the terma is exaggerated for the sake of distinguishing fully the *aula* or mesal division of the prosocœle, and in accordance with the representations of Balfour (ii, Fig. 257) and Kölliker (Fig. 311, 312). Even, however, were no width assigned to the terma, the aula would merely be reduced from a quadrangle to a triangle, and still have an appreciable extent.†

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[*] The advantages of monomial terms were stated in my paper (***40***) as (1) brevity; (2) flexibility; (3) assimilability; (4) abbreviative uniformity.

[†] As stated in the Greek lexicons, this word was applied to various cavities, including those of the heart and brain; the phrase *κοιλία ἐγκέφἄλου* is ascribed to Rufus Ephesius, *medicus*. At the time this suggestion was made I was not aware that, according to Burdach (ii, 301, 378, 380), Galen had designated the "fourth ventricle" as *κοιλία ὀπίσθιου ἐγκέφἄλου*, *τετάρτη κοιλία*, and *ὀπίσθια κυιλία* ("De usu partium," lib. viii, c. xii, p. 170), the "third" as *μεσὴ τριτὴ κοιλία* ("De usu partium," lib. ix, c. iii, p. 172), and the "lateral ventricles" as *πρόσθιαι κοιλίαι* ("De odoratus instrumento," c. ii, p. 110).

[‡] The appended Tabular Arrangement of the names of the encephalic segments, corrected and enlarged from the similar table on p. 405 of Wilder and Gage's "Anatomical Technology" shows that, as in 1881, my only departure from the names in Quain has been in replacing *thalamencephalon* by the much briefer *diencephalon* which was used by Rolleston in 1870 (p. xxxvi), and is given as a synonym by Quain. I have not been able to ascertain who first introduced the word.

[#] With special reference to the "lateral ventricles;" the proper name for the *entire* prosencephalic cavity is *prosocœlia.*

[‖] It forms Art. xxix of "Transactions of the New Zealand Institute," vol. xv, which reached me in May, 1884.

[^] Likewise in portions of the same author's "Zoötomy," noticed in "The Nation," August 14, 1884.

[◊] This, of course, is merely the vernacular form of *mesocœlia*. In the reports of the "Cartwright Lectures" (***36***) the vernacular forms of the cœlian names have *cele* instead of *cœle*, but the diphthong is necessary in order to distinguish these terms from the derivatives of *κήλη* (cele, a tumor).

Briefly stated, the questions are as follows:

1. Shall the entire cavity of the neuron or nervous axis be designated by the word *cœlia* (Ang. *cœle*)?

2. Shall this word be restricted to this application?

3. Shall the more or less distinct regions of this continuous cavity be designated by prefixing to the word *cœlia* the stem or some part of the regional name?

4. Shall we follow the majority of neurological writers in recognizing, provisionally at least, *five* definite encephalic segments or encephalomeres?

5. Shall we adopt the segmental names *met-*, *ep-*, *mes-*, *di-*, and *prosencephalon?*

6. Shall the encephalomeres be regarded as constituting a single series (with or without lateral diverticula) rather than two series, *mesal* or azygous, and *lateral* or paired?

7. Where lateral diverticula exist, shall they and the orifices by which they communicate with the mesal portion be designated by names distinct from the name of the entire cavity?

8. May we not conveniently employ such metameral and cœlian names without thereby implying the determination of subordinate problems like the following: *a*, Are not the cerebral hemispheres primarily appendages of the olfactory lobes rather than the reverse? *b*, Is there a true serial homology between the præchordal prosecenphalon and the rest of the brain? *c*, Do the parts known as cerebellum, oblongata, and pons represent two encephalomeres, or several, or only one? *d*, If two, shall the plane of division be regarded as vertical or horizontal? *e*, Where is the plane of division between the myelon and the brain?

The abbreviation *dc.* is repeated in three parts of the diacœle. The removal of the hypophysis leaves the orifice which I have called *lura.* The oblique line just ventrad of the word *fornicolumna* represents the cut edge of the endyma in its course from the fornicommissure to the point of its reflection upon the auliplexus. The surface ventrad of the line is endymal or *entocœlian*, dorsad of it, *ectocœlian*, and in relation with the pia. The postcommissure is seen to be not a rounded cord, as commonly described, but flattened, and corrugated on its ectocœlian surface. The postoptic portion of the mesocœle shows the trace of the tripartite constitution mentioned in the text, the lighter shading representing the narrower, mesal part; the deeper, the lateral extension. The cavity of the conarium contained a mass of "brain sand."

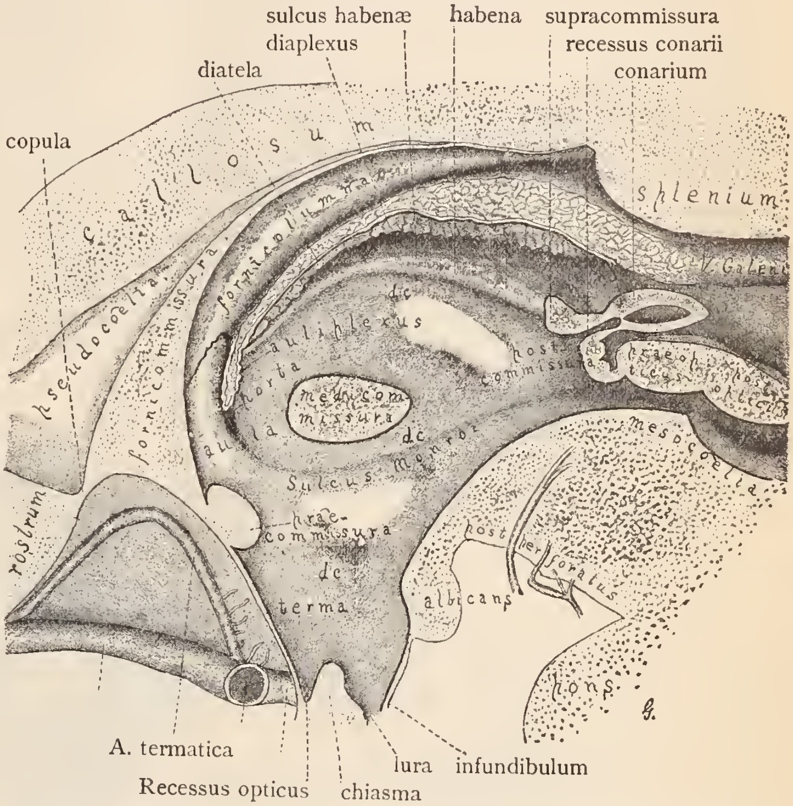

FIG. 3.—THE DIACŒLIAN PARIETES AND ADJOINING PARTS. Enlarged from Fig. 1. Drawn by Mrs. Gage. (The light areas near the words *post-commissura* and *præcommissura* are too sharply defined.)

From the Schema (Fig. 2) and Tabular Arrangement it will be seen that I have adopted an affirmative view of the eight general questions, and that the difficulty referred to under the eighth (*c* and *d*) is met by the suggestion of a compromise whereby the entire region between the optic lobes and the myelon proper may be called *metepencephalon*, and its cavity *metepicœlia.*

New Names.—Of the names upon the Tabular Arrangement which have not been published hitherto, *neurocœle* and

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* According to Figs. 338 and 340 in Kölliker's "Entwicklungsgeschichte," these recesses are closed by membrane in the fœtus. Perhaps even in the adult their apparent orifices are due to a rupture such as usually occurs with the *rima* or "great transverse fissure"; see this journal, April 5th, p. 376.

† In an adult, human brain hardened in alcohol, the distance between the convexities of the fornicolumns is 4 mm., and the lateral extent of the terma 6 mm. Either of these might be taken as representing the extent of the modified primitive terma.

encephalocœle were suggested in a letter by Professor T. J. Parker, dated January 4, 1884, and received by me February 9th. *Prosocœle* had been published by him, and is now adopted by me as a suitable designation of the *entire* prosencephalic cavity; *procœle*—which I had employed both for the entire cavity and for the lateral diverticula ("ventriculi laterales")—being now restricted to the latter. *Syringocœle*, *rhombocœle*, *metepencephalon*, *metepicœle*, *præoblongata*, and *postoblongata* are now first published. The two last named are proposed in view of the confusion resulting from the various senses in which the term *medulla oblongata* is used by writers.

Even if there proves to be no true, serial homology between the præchordal and the epichordal regions of the brain, the fact is indisputable that in Birds and Anurous Amphibia the mesocœle, like the prosocœle, comprises two lateral cavities connected through orifices with a mesal cavity (Figs. 4, 5, 6). Even the contracted human "aquæductus Sylvii" presents, in its T-shaped transection, what may be regarded as traces of this triple constitution of the mesencephalic cavity. Hence I propose to designate the three divisions of the mesocœle as *iter* and *optocœles*, and the constricted communications as *pylæ* (from the Greek πύλη), as the similar prosocœlian orifices, commonly known as "foramina Monroi," have been, since early in 1881, named from the Latin *porta*.*

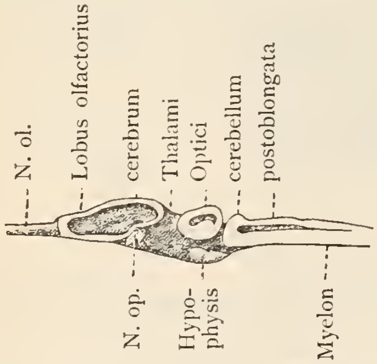

FIG. 4.—BRAIN OF A FROG seen from the left, after removal of the lateral parts so as to expose the metacœle, and the left procœle (lateral ventricle) and optocœle (optic ventricle). The preparation is A 654, Museum of Cornell University, and the cœliæ were *alinjected* (filled with alcohol), as described by me (*36,* 56). Drawn by Professor Cleaves.

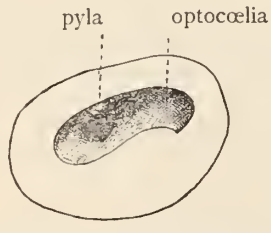

FIG. 5.—ENLARGEMENT OF THE PART MARKED *optici* IN FIG. 2, so as to show more distinctly the cavity (optocœle) of the left optic lobe, and the orifice (pyla) by which it communicates with the mesal portion (iter) of the mesocœle.

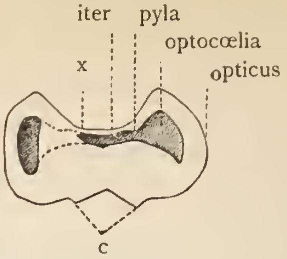

FIG. 6.—TRANSECTION OF THE MESENCEPHALON OF AN EMU (A 375), showing the triple constitution of the mesocœle which exists with birds and frogs. On the left the parts are as left by the section; on the right the continuity of the cavities is shown by the removal of the part corresponding to what is between the dotted lines. *x*, the unnamed lamina between the optici forming the roof of the iter. *c*, the outlines between the dotted lines represent cut surfaces.

Table showing the Correspondence between the Prosencephalic and Mesencephalic Cavities where the latter is triple, as in frogs and birds.

Encephalomere.	**Prosencephalon.**	**Mesencephalon.**
Entire cavity.	**Prosocœle.**	**Mesocœle.**
Mesal cavity.	**Aula.**	**Iter.**
Orifices.	**Portæ.**	**Pylæ.**
Lateral cavities.	**Procœles.**	**Optocœles.**

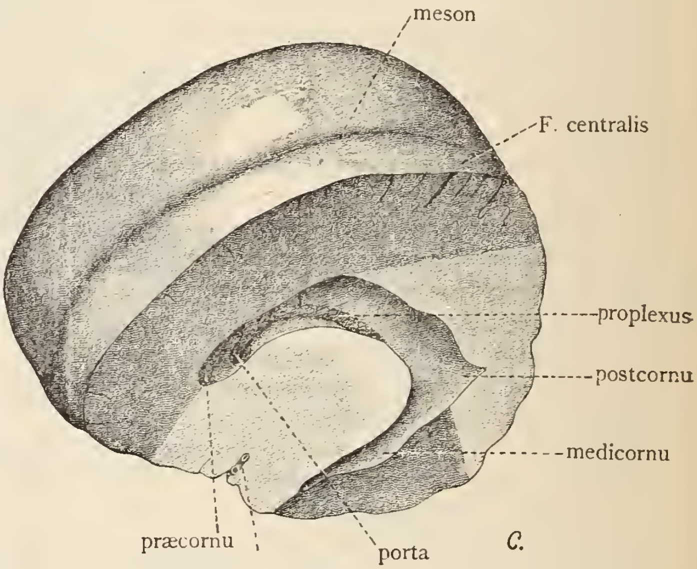

FIG. 7.—ADULT HUMAN BRAIN, dissected so as to expose the left procœle (lateral ventricle), and viewed obliquely; × about ·5. Drawn by Professor Cleaves.

The cœliæ were alinjected *per luram*, as described by me in this journal (*36,* 56). The dura is retained, and only the central fissure is named. The postcornu is shorter than usual, and foreshortened in the figure. The specimen is A 385, Mus. of Cornell Univ.

(*To be concluded.*)

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* The term *Monro'sche Oeffnung* occurs in Burdach (ii, 161, 379), and *foramen Monroi* in the index of the work. If any reader of this paper is aware of the use of the terms prior to 1822 and 1826 (the dates of publication of vols. ii and iii), I hope to be informed. That the orifice was named in honor of A. Monro *secundus* (not *primus*, as sometimes stated) is shown in my paper (*3*).

NOTES ON
PEAT AS A SURGICAL DRESSING.*

By W. G. TREMAINE, M.D., SURGEON, U. S. ARMY,
BUFFALO.

THE history of the treatment of wounds is, for the most part, a sad record of human folly and of the most absurd fantasies of the human mind. All kinds of materials have from time to time been accredited with healing virtue, and have been used empirically by those practicing the healing art, with a blind faith in the efficacy of the application itself. Amid these absurdities, it is refreshing to find that there were those who thought for themselves and observed carefully the processes of nature. For instance, said Galen: "The first thing the surgeon has to do is to see to it that he may not inflict injury, and not interfere with Nature in her attempts to heal."

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* Read by title before the New York State Medical Association, November 19, 1884.

Wortz, a master-surgeon of the sixteenth century, said: "Many a wound, if only kept clean and dressed correctly, will heal better than if you apply all your pastes and herbs." With the more accurate knowledge of pathology in modern times, the whole philosophy of the treatment of wounds may be summed up in the term, physiological rest; or, in other words, the prevention of all disturbing influences, either from within or from without, that may interfere with or retard the reparative process. All intelligent surgeons now recognize the value of non-interference with a wound except for the purpose of removing one or another of these disturbing influences. It is, therefore, clearly the duty of the surgeon to employ that form of dressing which will best carry out these principles. The essentials, consequently, of a good dressing are: First, sufficient absorbing power to rapidly remove excessive wound-exudates; second, to prevent decomposition of these exudates; and third, to accomplish the preceding requirements with as little mechanical disturbance of the wound as possible. There are several substances now in use that carry out these indications in a more or less satisfactory manner.

About four years ago a laborer, working in the neighborhood of Kiel, hurt himself badly in the hand and forearm. In the absence of any dressing material, the injured limb was surrounded with black peat obtained from a peat-moor where the man had been at work. The pain soon ceased. The dressing was not disturbed for eight or ten days, when the patient presented himself at the surgical clinic in Kiel. The condition of the man is thus described by Dr. Neuber: "A thick layer of dried black peat covered the forearm. After the arm had been cleaned in several baths, and the parts sponged off, we saw, to our great astonishment, a wound partly filled with beautiful granulations; partly there was primary union. The surroundings of the wound were perfectly without reaction. Until now no suppuration had started. Later the patient had the full functions of his hand."

Suggested by this incident, peat was extensively used as a surgical dressing in the clinic at Kiel by Dr. Neuber, a full account of which is given by him in "Anleitung zur Technik der antiseptischen Wundbehandlung und des Dauerverbandes."

According to a chemical analysis, peat contains: moisture, 20·98; ash, 5·07; organic matter, 73·95; nitrogen, 0·46. Its absorbing power is remarkable. It takes up nine times its own weight of water. It has no irritating quality when applied to wounded surfaces. Some extraordinary stories are told of its preservative qualities.

In Germany, Moorish corpses have been discovered imbedded in the black peat, which have been preserved for centuries. A resident pupil in the hospital informs me he has seen, in Ireland, bodies of animals dug out of peat-bogs in a perfect state of preservation, where they must have lain for years. He also says he has seen butter, perfectly fresh and palatable, packed in a crude form of tub, supposed to have been placed in the peat by the Danes.

About a year ago I began the use of peat at the Buffalo Hospital of the Sisters of Charity, a hospital of one hundred and eighty beds, and also at the Emergency Hospital. From the large number of surgical cases received and treated during the year, nearly two hundred of them being cases of accident (railway and other), ample opportunity has been afforded to test the value of this dressing. The peat used was obtained in packages containing one hundred pounds, imported from Germany by M. Lienau & Co., No. 2 Jones Lane, New York. The manner of using it is as follows: Bags of different sizes, made of hygroscopic gauze, or the fabric known as cheese-cloth rendered hygroscopic by boiling in an alkaline solution, are filled with the peat, and, after being moistened with a solution of mercuric bichloride, 1 to 1,000 parts, are applied directly to the wound, after it has been thoroughly cleansed and irrigated with the mercuric-bichloride solution. This dressing is not disturbed until completely saturated with the discharges, unless pain or rise of temperature should indicate the necessity of removing it. Frequently one dressing will suffice. Possibly the best method of illustrating our results will be to relate a few cases taken from the records of the hospitals.

Case I.—E. G., aged twenty-eight years, native of Germany. Admitted March 15, 1884. While coupling cars this morning, his right elbow was caught between the buffers, producing a compound comminuted fracture of the elbow joint, with a lacerated wound on the anterior aspect of the joint, laying bare the brachial artery for three inches. The elbow joint was resected, the internal and part of the external condyle being removed, with the coronoid and part of the olecranon. A drainage-tube was inserted. The wound was thoroughly irrigated with mercuric-bichloride solution, 1 to 1,000. The wound was united with catgut sutures and wrapped in gauze-bags containing sublimated peat. In five days the dressing was removed. There was no suppuration. The wound was free from inflammation and fresh peat-bags were applied. The dressings were not removed for ten days, when the wound was found completely healed. Three weeks after the operation there were fair flexion and extension.

Case II.—George L., aged twenty-five, native of England. Admitted June 14th, with compound fracture of the tibia and fibula in the upper third. The wound was thoroughly irrigated with mercuric-bichloride solution. The limb was enveloped in sublimated peat-bags and placed in a fracture-box. No surgical fever and no suppuration followed. Recovery was complete, with a useful limb, in six weeks.

Many other cases might be cited from our records, but these will sufficiently illustrate the method of using the peat and the results obtained.

Finally, we have found it a valuable surgical dressing, particularly in lacerated wounds and compound fractures. In comparison with peat, we are now using wood-flour, charged with mercuric bichloride and naphthalin, with some advantages in favor of the latter; viz., greater absorbent power, the wood-flour taking up twelve times its weight of water, and, in addition, the stain of the discharges being more readily seen than in the darker peat.

INTESTINAL OBSTRUCTION.*

By AVERY SEGUR, M. D.,
BROOKLYN.

A PERSON in ordinary health is seized with pain, more or less severe, in some part of the abdomen. The pain continues, nausea supervenes, and, perhaps, vomiting. Soon tenderness is developed, with moderate distension of the bowels. There may have been previously constipation, or indigestible food may have been taken, or there may have been exposure to cold, fatigue, etc. Ordinary remedies are taken, and pretty certainly a domestic cathartic. This may excite more pain and vomiting, or quite possibly one or two stools may follow. No relief, however, is obtained, and a physician is called to the case.

A diagnosis is felt to be a necessary precedent to good practice. The patient is examined with due care. No hernia is recognized. No local signs of inflammation are discovered. The evidences of any anatomical or mechanical obstruction are wanting. The previous history of the individual is carefully elicited. It may be that the patient has had similar seizures before, which have, after a doubtful progress, happily passed away, but have left no certain clew to the nature of the past or present attack. The physician finds himself unable to make a diagnosis at this stage of the case, and he is forced to treat the symptoms.

Pain requires an anodyne, and morphine is injected under the skin. The bowels require both sedation and evacuation, and ten grains of calomel are administered once and again, or even cathartic pills are prescribed. The bowels do not respond to the intention; but, instead of a normal peristalsis, an antiperistaltic action is produced, and the contents and secretions of the intestines are forced into the stomach, which rejects these as well as the ingesta. Nutrition fails; the kidneys yield a scanty secretion; failing depuration burdens the nervous system exhausted by pain; and inflammatory processes are established.

The patient succumbs to the combination of adverse conditions. Then come a post-mortem and a diagnosis.

It was the instruction afforded by two such post-mortems, made by the writer several years ago, which led him to consider with much interest the treatment of cases in which the symptoms of intestinal obstruction occur, and in which, after careful and competent examination first made, no indications can be obtained for surgical procedures.

The opinions formed have been followed in the hospital service of the writer for several years, where a considerable number of cases, some fatal, more recoveries, have seemed to justify—the fatal equally with the successful cases—the plan of treatment adopted.

It is the object of this paper in a few words to state this treatment, that the limited experience of one observer may be corrected, and so made valuable by many; and that the considerable number of physicians who, as evidenced by the previous treatment of patients admitted to the hospital, adopt a different, and it is believed injurious, course may be induced to reconsider their early treatment of symptoms of intestinal obstruction. No questions of diagnosis will be discussed, because, if the case is surgical, it is not a question of medical treatment at all, and, if medical, in a majority of cases a treatment must be decided upon in advance of a diagnosis; and perhaps the progress of the case will show more of the good or bad effects of the physician's interference than of the real seat and nature of the original trouble. No space will be given to details of cases, because it is believed that the principles involved and the results obtained may be as clearly illustrated and as faithfully rendered by a general statement.

First.—The indications in cases of intestinal obstruction, where the obstruction can not be removed by surgical interference, are: *a.* To allay pain and intestinal spasm, and to subdue all irregular intestinal muscular action. *b.* To give rest to the stomach. *c.* To sustain nutrition, and to maintain the functions of the kidneys, liver, skin, lungs, etc. *d.* To prevent and limit inflammation. *e.* To overcome the obstruction.

Second.—TREATMENT.—The last indication, the overcoming of the obstruction (not necessarily its removal, as in cases of growths in the substance of or attached to the inner wall of the intestines, inflammatory adhesions, inclusion of the bowels, incomplete hernia, etc., in which the loss of caliber of the intestine, although permanent, permits ordinarily a passage, but at times from congestion, spasm, or other accidental condition, a more or less obstinate obstruction occurs), is first in importance. All direct means of moving the bowels are avoided from the first. No laxatives or purgatives are employed. It is believed that this should be an invariable rule of practice.

Morphine and atropine, in the proportion of twenty of the former to one of the latter, are steadily employed hypodermically; the amount to be determined by the relief from pain afforded. An enema of four ounces of flaxseed tea is administered every two hours, and care is taken that it is retained.

Nutrient enemata of Valentine's extract of beef, with pepsin, or of defibrinated blood, take the place of every third enema of flaxseed tea. Flaxseed poultices are applied to the abdomen.

The horizontal position is strictly maintained, and sleep and quiet are secured. The stomach has nothing forced upon it, and to that extent it is saved the necessity of irregular action.

This plan is steadily pursued, day after day, until pain is relieved, inflammation, if it has supervened, has terminated, and the bowels act spontaneously.

Third.—The favorable effects, observed by the writer, of this treatment, most marked in some cases admitted to hospital, after some days of progress under plans of treatment to which cathartics were admitted, have been:

1. Pain is much more under control and with less medicine.
2. Vomiting is less frequent.
3. Spasm and irregular action are prevented.
4. Strength and nutrition are markedly well supported.
5. The following physiological observations are believed to be established: *a.* Respiration is fully maintained by the

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* Read before the New York State Medical Association, November 18, 1884.

atropine, the patients showing, in this respect, a most striking contrast to those in whom morphine is permitted to produce its usual effect on this important vital act. *b.* The rectal enemata at once increase the action of the kidneys and the quantity of urine voided. In this, again, it is very interesting to see the clearer intelligence and improved nervous condition of the patient, who before was passing very little water, with consequent blood-poisoning. The action of the kidneys is steadily promoted by the liquids thus introduced and absorbed. *c.* "Intestinal injections of water have a very great influence over the secretion of bile." (See Wood's "Materia Medica and Therapeutics," Philadelphia, 1880, third edition, p. 448.)

6. The writer has observed, in post-mortem examinations, inflammation and general peritonitis, as he believes, excited by the cathartic treatment adopted to overcome obstructions; for he has seen, in several instances, post-mortem examinations where the anatomical causes of obstruction were identical and irremediable, and where the foregoing plan of treatment was followed, and there was an entire absence of inflammation.

Finally, in general, the observations of this treatment have included cases of intestinal obstruction due to occlusion, where only a segment of the wall of the intestine was incarcerated in an obturator hernia, to annular growths (malignant) in the wall of the intestine, to intussusception, to perityphlitis, and to various unrecognized causes. The general vital condition has been apparently better, the progress less exhausting, and the return to evacuations of the bowels, even where large accumulations have been finally passed, easy, spontaneous, and natural.

A CASE OF NEGLECTED INJURY OF THE HAND.*

By CHARLES N. D. JONES, B. S., M. D.,
BROOKLYN.

George D., aged forty-five, four weeks before coming under my care at the Brooklyn Hospital, had been run over by a truck, the wheel passing over his hand, causing a compound comminuted fracture of the thumb and two fingers. He had been seen by a physician, but apparently no effort had been made at replacement of the distorted fingers, and no antiseptic precautions had been taken.

When the patient came under my observation, February 11, 1884, the fingers were in a sloughing and septic condition, and the fragments of bone were displaced, the shattered portions protruding from the soft tissues and in a state of necrosis. The whole hand and part of the forearm were swollen and œdematous, and altogether presented an unfavorable condition. The patient, who had been a healthy laboring man, looked pale and exhausted; his temperature was 100° F., and his pulse 98. The hand was thoroughly washed with an antiseptic solution and enveloped in a carbolized charcoal poultice.

By the 14th his condition had somewhat improved. At the suggestion of Dr. Rushmore, the attending surgeon on duty at that time, I proceeded to remove the injured members. The amputation was done under a continuous irrigation of corrosive-sublimate solution, 1 to 1,000. The thumb was removed at the carpo-metacarpal joint, fairly good flaps being secured from the palmar and dorsal surfaces of the hand. The index-finger was amputated in the continuity of the first phalanx. The middle finger was disarticulated at the junction of the first and second phalanges. There was considerable venous and capillary hæmorrhage, but the tissues were so soft and œdematous that it was impossible to tie any of the bleeding vessels. The stumps were treated by the "open method," as practiced by the late Professor James R. Wood and recommended by Professor Gross in his work on surgery. The stumps were packed with marine lint saturated with balsam of Peru, and bandaged; the packing served to arrest the hæmorrhage, at the same time absorbing the discharges, and thus securing good drainage. This dressing was renewed every twenty-four hours.

A slight reactionary rise of temperature occurred, but by the third day the temperature and pulse were normal. On the 19th, five days after operation, suppuration had nearly ceased and the stumps were in a healthy granulating condition, so that the flaps were gradually molded into position and approximated with adhesive plaster, drainage being secured by horse-hair at the bottom of the wound. After this the case progressed uninterruptedly. By March 5th, nineteen days after the operation, union had taken place, and the patient was discharged with a very useful hand.

Of the method of dressing used in this case, the late Professor Gross, in his excellent work on surgery, says: "My conviction is that, as a rule, it is preferable to every other plan that has ever been devised." I am inclined to believe that this treatment is preferable to strict antisepsis when, as in the case described, the tissues are in a septic condition. In these cases the wound is made in tissues that are infiltrated, and already to a certain distance invaded by an army of germs, so that there is no probability of primary union.

It will be observed in the history of this case that three of the most important indications in the treatment of such an injury were apparently not observed: 1. Primary antiseptic dressing of the injured member. 2. Replacement and retention of the displaced fragments. 3. Removal of disorganized portions at such a time as nature should indicate her inability to provide for their nutrition.

From the fact that inflammation situated in the subcutaneous tissue was liable to extend through the sheaths of the tendons and cause an extensive suppuration, which might extend from the hand up into the forearm, after which it would be almost impossible to limit its advance, an early operation should have been performed.

As, in all injuries of the hand, it is a cardinal principle to preserve as much of the member as possible, primary amputation is to be avoided. At the time of injury it is very difficult, if not impossible, to tell how much of the limb is destroyed beyond recovery. Professor Wyeth says that he feels mortified at being obliged to do a primary amputation for an injury. In a recent address on the "Guiding Principles of Operative Surgery," Mr. Thomas Bryant makes use of the following language: "In the treatment of disease or injury the surgeon should employ his art to help, guide, and utilize natural physiological processes, and to remove all such obstacles as may interfere with their steady evolution. To this end medical treatment, position, and mechanical appliances may be required, and when these fail or are insufficient, operative surgery comes into requisition."

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* Read before the Brooklyn Pathological Society, with the presentation of the specimen, December 11, 1884.

This principle of treatment was clearly illustrated in two cases which recently came under my observation at one of the New York dispensaries.

Case I.—A young man while out shooting had the thumb and two of his fingers severely wounded by the accidental discharge of his gun. He was seen shortly after by a country surgeon, who, in order to arrest the hæmorrhage, amputated a part of the hand. The patient eventually recovered, but with the usefulness of his hand much impaired.

Case II.—The patient received the whole charge of a gun into the metacarpal portion of the hand, a large opening being made through the hand and several fingers lacerated. The hand was seen shortly after by a metropolitan surgeon, who simply dressed the wound antiseptically and carefully watched the healing process. The patient recovered with a very useful hand and with very little loss of substance.

During the past year, in my service as *interne* of the Brooklyn Hospital, I have had an unusually large experience in the treatment of injuries of the hand, largely consisting of what we have denominated "tin-factory cases." It has occurred to me that some remarks based upon personal experience in the treatment of these and other cases might, under present circumstances, be of interest.

My experience has taught me that primary removal of injured portions is to be avoided. The wound should be cleansed, hæmorrhage arrested, loose fragments of bone removed, bruised soft tissues placed in apposition, and Nature given an opportunity to carry out the reparative process. When it is clearly evident that she has failed, it is time to assist her in the removal of disorganized tissue by the use of the knife. The dressing which I have found most efficient in the treatment of these cases is as follows: The wounded surface is dusted with powdered iodoform, covered with iodoformized gauze; then over this are placed several layers of sublimate gauze; the whole is snugly bandaged, and a splint is applied. The dressing is removed in twenty-four hours, and re-applied. At the end of a week it is clearly evident in what portions nature has failed to bring about a cure, and then these should be removed.

The case first related seems of interest in the following respects:

1. The rapid recovery of a hand that seemed to have been irretrievably disorganized.
2. The method of dressing used.
3. The rapid improvement in the patient's condition after operation.

Book Notices.

Hand-book of the Diagnosis and Treatment of Skin Diseases. By Arthur Van Harlingen, M. D., Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. With Two Colored Plates. Philadelphia: P. Blakiston, Son & Co., 1884. Pp. xii–282.

This is one of the best of the smaller hand-books of dermatology that we have seen. As it was written for general practitioners, pathology has been omitted, and the main stress is laid on symptomatology, diagnosis, and treatment. The commoner affections are treated of at some length, especially eczema. The descriptions are concise and generally good, and the subject of differential diagnosis is intelligibly presented. In the matter of treatment, too, the author is judicious, but we miss some therapeutic procedures of well-attested efficacy, such as the use of multiple punctures, linear scarifications, and hot water in the treatment of acne rosacea; salicylic acid for the removal of corns; and the local use of carbolic acid for lupus erythematosus. Many useful directions are given as to the preparation of topical applications, and a good dietary table is appended. The alphabetical arrangement of the subjects makes the book easy of reference.

The Pedigree of Disease; being Six Lectures on Temperament, Idiosyncrasy, and Diathesis, delivered in the Theatre of the Royal College of Surgeons, in the Session of 1881. By Jonathan Hutchinson, F. R. S., late Professor of Surgery in the College, etc. London: J. & A. Churchill, 1884. Pp. 142.

The questions of temperament and idiosyncrasy, which so much occupied the physician of a hundred years ago, have almost ceased to meet with attention. This is mainly attributable to the concentration of thought upon the details of disease. As a consequence, we are too much disposed to devote our energies to the elucidation of individual forms of disease, ignoring the broad groundwork of pathology. The result of this state of things is not altogether to the advantage of medicine. In these lectures Mr. Hutchinson has treated each of his themes in a broad, original, and philosophical spirit, and we commend the little book to the profession.

Diagnosis and Treatment of Diseases of the Heart. By Constantin Paul. Member of the Academy of Medicine, Physician to the Lariboisière Hospital. Translated from the French. New York: William Wood & Co.. 1884. Pp. vii–335. [Wood's Library of Standard Medical Authors.]

The name of the translator of M. Paul's work is modestly withheld, but his task has been so well performed as to entitle him to commendation. The scheme of the book is simple, embracing cardiac topography, the diseases of the heart and its membranes. and a review of the subject of treatment. About all that can be looked for in a book on such a subject is a restatement of what has already been said. and this the author has done in a way that was to be expected from a writer and teacher of M. Paul's prominence. The anatomical descriptions are particularly valuable for their clearness and succinctness. The illustrations, many of which are taken from the works of Cruveilheir and Sée, are of a very intelligible character.

BOOKS AND PAMPHLETS RECEIVED.

Manual of Diseases of the Ear, for the Use of Students and Practitioners of Medicine. By Thomas Barr, M. D., Surgeon to Glasgow Hospital for Diseases of the Ear, etc. Glasgow: James Maclehose & Sons; London and New York: Macmillan & Co., 1884. Pp. xxvii–529. [Price, $3.50.]

Kirkes's Hand-Book of Physiology. By W. Morrant Baker, F. R. C. S., Surgeon to St. Bartholomew's Hospital, etc., and Vincent Harris, M. D. Lond., Demonstrator of Physiology at St. Bartholomew's Hospital. Eleventh Edition, with nearly 500 Illustrations. Vol. II. New York: William Wood & Co., 1885. Pp. vii–378. [Wood's Library of Standard Medical Authors.]

Report of Proceedings of the Illinois State Board of Health. Adjourned meeting, Springfield, February 5–7, 1885.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MARCH 21, 1885.

THE PREMATURE DELIVERY OF IDEAS.

Among the many signs of progress in our American civilization is the growing disposition of young men to make themselves prominent. This is a particular characteristic of the medical profession, a profession, we must admit, of which humility is not always the most pronounced virtue. Whether the anxiety to rush into print displayed by some of the young men—and this we say not as in any sense a withdrawal of the encouragement we tried to give to youthful writers in our last issue, but rather as a tempering caution—is to be looked upon as an evidence of actual increase in their intellectual activity or as a feverish desire to see their names in type, may admit of question. Certain it is that there is an ever-growing tendency among medical graduates of a few years' standing to publish their first interesting case, instead of waiting until they have had another to go with it. That this little failing is eventually outgrown, is also true.

We do not wish to convey the impression that we sympathize with Carlyle's dyspeptic view of young men, whom he desired to hide under a barrel until they had attained to years of discretion; we aim rather at urging the truth which Mr. Bryant so aptly put, in his recent address before the London Clinical Society, as we find it reported in the "British Medical Journal." "Let us," he says, "in our anxiety to be discoverers, guard against announcing as a novelty some thought or observation which, though new to us, may not be so fresh to others; remembering, in the pursuit of knowledge, that our own observations are so mixed up with those of others, that our thoughts are so often merely the outcome of others' thoughts, our ideas are so constantly no more than the assimilation of the thoughts and observations of other men, that to be original is almost impossible."

Doubtless the highest aim of a writer should be to contribute something, however little, to the sum of existing knowledge; and in proportion as he loses sight of this lofty ideal, and thinks only of his own personal reputation, his work will lose in quality, whatever it may gain in quantity. There are men who are old in years and in experience, who write very seldom, but when they do their words carry weight; *per contra*, there are many extremely prolific writers whose articles are literally "read by title" only. To restrain the fierce *ardor scribendi*, to keep an article back for months or years, if need be, until it has been "worked into shape"—this requires more self-control than the average man is capable of. And, yet, most truths have been evolved by this patient waiting.

There is no reason why a young man who has an idea should not express it, but let him turn it over in his mind until it has been molded into a presentable form and lost a little of its crudity. We do not refer to the mere improvement of literary style, although there is occasion enough for that, but to the desirability of fostering in our younger men such a scientific spirit that it will be impossible for them to publish matter until it has been most carefully elaborated. The criticism which we have endeavored to make, in a just and kindly spirit, is one that is heard daily from the lips of the older and maturer members of the profession, but their laugh at youthful folly is often tinged with a certain sadness, for they recall a time when they, too, thought to impress the world with their learning and originality, and their dreams are still unrealized.

DILATATION OF THE ORIFICES OF THE STOMACH.

Professor Loreta, of Bologna, has recently published two monographs upon this subject, containing reports of several successful cases. The boldness and novelty of the procedure could not fail to arrest the attention of surgeons, especially those who were interested in the new operation of resection of the pylorus. Mr. Holmes has summarized the two papers in an article contributed to a recent number of the "British Medical Journal." Not to enter into details with which the reader may be more or less familiar already, it may be stated that dilatation of the pylorus is proposed as an improvement upon resection, while a similar procedure applied to the cardia is suggested instead of gastrostomy. The stomach having been exposed by an incision through the abdominal wall a little to one side of the median line, an opening is made into it anteriorly, near the pylorus, the right forefinger is introduced through the stricture, the left is passed in beside it, and divulsion is practiced by slowly separating the fingers. The gastric and abdominal wounds are then closed.

In the two reported cases, not only were the urgent symptoms relieved, but there was every evidence, months after the operation, that the stricture had been permanently overcome. The dilatation of the œsophageal strictures was performed in the same manner, although, from the position of the cardiac orifice, it was necessary to use a steel dilator instead of the fingers. Professor Loreta does not expect such permanent results from instrumental dilatation, since he can not be so certain that the muscular fibers have been completely overstretched. He suggests that perhaps electrolysis may be employed instead of dilatation.

The success which has attended this ingenious procedure will certainly give it favor in the eyes of American surgeons, who, while admiring the daring spirit of their foreign *confrères*, are deterred by a certain conservatism, arising, we are glad to say, from a spirit of humanity, rather than of fear, from following their example. Any operation which will take the place of that formidable and, as we think, unjustifiable measure—resection of the pylorus—is to be regarded as a most valuable contribution to peritoneal surgery.

MINOR PARAGRAPHS.

INTRAFUSION.

As bearing on a matter which we mentioned last week, we would call attention to a letter by Mr. Charles Jennings, published in a recent number of the "British Medical Journal." He observes that there are two classes of cases in which intrafusion may be employed—one in which the amount of blood lost has not exceeded a certain definite ratio of the body weight, and the other in which the loss has been more excessive. Intravenous injections of salt solution are indicated, he says, in the former case, but transfusion of blood alone will restore the patient in the latter. In other words, merely adding to the supply of fluid will not answer in cases of excessive loss of blood.

EXITUS ACTA PROBAT.

Those who may imagine that the inadequacy of Dr. Milton Josiah Roberts's previous attempts to give due publicity to the electro-osteotome, embracing as they did an elaborate description of the contrivance in the columns of one of our contemporaries and a demonstration of its capabilities at a meeting of the Academy of Medicine, was the consideration that led him to indulge in the feats that were so glowingly set forth in last Sunday's newspapers—those who entertain that fancy must, we are persuaded, be to a certain extent mistaken. While persons who are sensitive in the matter of buncombe may feel convinced that the affair was intended *ad majoram Robertesii gloriam*, we think we see in the occurrence one of those mysterious workings of Providence that sometimes, for the ultimate accomplishment of a great end, lead men to do what would ordinarily be repugnant to their sense of the fitness of things. In the dreary *non poss.* which Mr. Henry Bergh is reported to have framed concerning the matter he said: "Let them practice vivisection on men, women, and children"—a sentiment that will go far, we trust, to take the wind out of that gentleman's sails in any attempt to secure the passage of an anti-vivisection law in this State. This is the good that is to come out of the affair, and it is not too much to take it for granted that the sheep which suffered on the occasion will become famous quite apart from the minor matter of the electro-osteotome.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 17, 1885:

DISEASES.	Week ending Mar. 10.		Week ending Mar. 17.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	0	2	0
Typhoid Fever	7	2	5	1
Scarlet Fever	86	21	85	14
Cerebro-spinal meningitis	4	2	8	8
Measles	191	24	147	22
Diphtheria	46	21	80	47

Typhus in New York.—A fresh importation of typhus from Hamburg came to light on Monday, two persons just arrived from that city having been found by the officials of the Health Department to be suffering from the disease.

The "Index Medicus."—We are glad to learn, from an announcement issued by the editors, that Mr. George S. Davis, of Detroit, has undertaken to continue the publication of the "Index Medicus" on the same general plan, and with the same regard to typographical accuracy, as in its former publication. The first number for the current year will contain the references to the literature of January, February, and March, after which it will appear monthly, as heretofore.

The Medical Society of the County of New York will hold its next meeting at the Academy of Medicine, on Monday evening, the 23d inst., and the meetings will be held at that place hereafter.

The College of Physicians and Surgeons.—The Assembly has passed a bill enabling the college to make the desired use of Mr. Vanderbilt's gift of half a million dollars.

The Indiana State Medical Society will hold its next meeting in Indianapolis on Tuesday, Wednesday, and Thursday, May 12th, 13th, and 14th.

The Order "pour le merite," lately conferred upon Sir Joseph Lister by the Emperor of Germany, has, as we learn from the "Medical Times and Gazette," been given to only two other surgeons, Dieffenbach and Schönlein.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 8, 1885, to March 14, 1885:*

Army Medical Board to meet in New York city, April 6, 1885. Detail for board: Lieutenant-Colonel Joseph B. Brown, Surgeon; Major Anthony Heger, Surgeon; Major John H. Janeway, Surgeon. Surgeon Heger to be relieved from duty in the Department of the East, and Surgeon Janeway to perform duties on the board in addition to his present duties. S. O. 56, A. G. O., March 11, 1885.

Brown, H. E., Major and Surgeon. Granted leave of absence for one month, with permission to apply for two months' extension. S. O. 48, Department of the East, March 6, 1885.

Taylor, Blair D., Captain and Assistant Surgeon. Leave of absence extended two months. S. O. 54, A. G. O., March 9, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending March 14, 1885.*

Bailhache, P. H., Surgeon. Detailed as President, Board of Examiners, March 10, 1885.

Purviance, George, Surgeon. Detailed as member, Board of Examiners, March 10, 1885.

Austin, H. W., Surgeon. Detailed as recorder, Board of Examiners, March 10, 1885.

Society Meetings for the Coming Week:

Monday, *March 23d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement.

Tuesday, *March 24th:* New York Surgical Society; New York Dermatological Society (private); Buffalo Obstetrical Society; Medical Society of the County of Lewis, N. Y.

Wednesday, *March 25th:* American Microscopical Society of the City of New York; New York Pathological Society; Auburn, N. Y., City Medical Association; Cumberland County, Me., Medical Society (Portland); Berkshire District, Mass., Medical Society (Pittsfield).

Thursday, *March 26th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; Roxbury, Mass., Society for Medical Improvement (private).

Friday, *March 27th:* New York Clinical Society (private); New York Society of German Physicians (private); Yorkville Medical Association, New York (private).

Saturday, *March 28th:* New York Medical and Surgical Society (private).

Proceedings of Societies.

CHICAGO MEDICAL SOCIETY.

Meeting of March 2, 1885.

The President, Dr. D. A. K. Steele, in the Chair;
Dr. Liston H. Montgomery, Secretary.

Mollities Ossium.—Dr. W. J. Webb read a paper on this disease, embodying an elaborate account of the case of a man, a native of Pennsylvania, some of whose brothers and sisters had had symptoms more or less like his own, so that an hereditary element might have entered into the causation of the disease. He had led a life of vicissitudes, having been at different times a wood-chopper and a miner; had been a masturbator from the age of eight years; had at times been a hard drinker; was supposed to have had syphilis; and had perhaps been poisoned by drinking arsenical water while engaged in mining. He had also suffered from tape-worm. Toward the close of his life his body became very much distorted, he was at one time unable to move any part of his person except his right hand, he was cyanosed, and on several occasions his temperature was subnormal.

At the post-mortem examination the body was found so shortened and flattened as to resemble that of a frog; yet it was six or seven inches longer than it had been before death. It was excessively emaciated, and the skeleton was distorted in various ways. After being subjected to a stretching process, the entire length of the cadaver was fifty-five inches. The left femur measured eleven inches, the right one eleven and three quarters; the left tibia fourteen inches, and the right one thirteen and a quarter; the sternum six and a half; each humerus eleven; and the left ulna nine, and the right one ten. The heart was situated in the median line, and the pericardium extended up to the second rib. The head was at least an inch and a quarter smaller in circumference than it had formerly been. The vault of the cranium was nearly as flexible as a moderately distended football. The bones of the face had suffered least of all, but they had been tender to the touch before death, and some of the teeth had become loose. The clavicles were enlarged, elongated, and curved decidedly upward. The sternum was but little affected; the mannbrium, together with the sternal ends of the clavicles, extended upward and forward, while the gladiolus pointed upward and slightly backward, which made a decided curve posteriorly. In the anterior third of the shafts of the ribs nearly or quite all the proper bone substance was wanting, and the periosteum was folded upon itself. Altogether, the condition of the chest-wall was such as to have caused great compression of the organs within, and for at least six months before the man's death his breathing had been largely diaphragmatic. The vertebral column was enlarged, and, while its natural curves were increased, there was also a decidedly sharp lateral curvature to the right in the dorsal portion, together with a slight curve to the left in the lumbar portion. The innominate bones were nearly at right angles with the horizontal plane of the pelvis. The ilia were crowded inward, while the ischia were directed outward and the sacrum was turned forward, and the pubes slightly backward and downward. This position of the pelvis, together with the eversion and outward curvature of the femora, was suggestive of the ancient lyre. The upper limbs presented nothing of special importance, except that they were small and so soft and flexible that they might easily have been tied in a knot. On section of the femur, only a trace of bone substance was seen adhering to the inner surface of the periosteum; as the head of the bone was approached, the cancellated structure was more characteristic, but even here it could easily be cut with an ordinary scalpel. When the periosteum was cut into, a considerable quantity of sero-sanguineous fluid escaped that completely enveloped and seemed to permeate the liver-like substance which had taken the place of the medullary canal and the greater part of the shaft of the bone. In the trochanters there was an augmentation of soft cancellated substance containing a large deposit of fat. The neck of the bone was shortened, and the great trochanter extended above the articulation with the acetabulum.

The reader then gave a summary of the treatment to which the man had been subjected, and suggested that, when practicable, a water-bed should be used for such patients, while something might perhaps be done with an apparatus for making extension and preserving the proper shape of the thorax—possibly with plaster of Paris. According to an old author (who was quoted at length), cases of osteomalacia might be divided into three classes: 1. Those due to carcinomatous or sarcomatous disease of the medulla. 2. Those due to an affection of the medulla allied to lymphoma. 3. Those due to some peculiar condition of the medulla, or perhaps of the blood, dependent on the pregnant state. The reader thought that hereafter the nervous system would receive more attention than it had received hitherto in connection with this disease.

Dr. C. E. Webster asked if the reader, in his study of the disease, had been able to distinguish it sharply from fragilitas ossium. It seemed to him that the two were often confounded. He doubted if any form of support could have been devised that would prevent the deformity of the thorax.

Typhoid Fever and its Hygienic and Specific Treatment was the subject of a paper by Dr. David O'Shea, which was illustrated by the histories of a number of cases. Foul air and contaminated drinking-water were not always the cause of the disease, but he believed that there was a specific enteric bacillus yet to be discovered. Klebs had already professed to have identified the bacillus, and to have found it in the blood, in the lymphatics, and in the tissues, but this needed confirmation. It was very rare for the disease to occur in a person far advanced in years, but the individuals of certain families were prone to suffer from it in a severe form, so that there was reason to apprehend a formidable attack when a parent had died of it. When we were called to a suspected case, therefore, we should first consider the patient's family history, then his personal history, and finally his actual condition, with regard to their bearing on the prognosis.

The principles of treatment were generally accepted and well understood, and success would depend greatly on their intelligent application to individual cases and on careful attention to details in every stage of the disease. Whenever it was possible, he had the patient's bed placed so that, occupying a large, airy room, with the doors or windows open more or less continuously, according to the state of the weather, it could be approached from either side. The bed should be firm and comfortable, and, if practicable, one should be occupied during the day and another at night. The covering should be light, but sufficient to protect the patient against changes of temperature. The body should be sponged night and morning with tepid alcohol and water, and during the height of the fever the face and hands should be sponged frequently through the day. If the temperature rose above 103° F. in the morning, and above 104° in the evening, the wet pack should be applied to the chest and an ice-bag to the head, and a mustard foot-bath three times in the twenty-four hours would prove very grateful and efficacious. The bed-pan should always contain about one third its capacity of water with a teaspoonful of a twenty-five-per-cent. solution of carbolic acid added to it, and this should be renewed every time the vessel was used. In summer the evacuations should be buried, but in winter they could be thrown into a water-closet. No one should occupy the same bed with the patient, nor, if it could be avoided, the same room, and only those who were advanced in years should act as nurses. In all the cases related this hygienic treatment had been followed, together with the specific treatment laid down by Liebermeister, Traube, Wunderlich, and others, consisting in the administration of ten grains of calomel at a single dose the first day the fever was recognized, and eight grains a day for three or four days afterward, or according to the condition of the bowels. It was a fact that these large doses of calomel had an antipyretic effect in every case, and, with this remedy, the writer could bear testimony to the efficiency of the specific treatment in cutting the disease short and lessening its mortality. The longest duration of the disease in any of his cases was twenty-six days, and the shortest fifteen days. The complications were few and of short duration; only one of the patients became delirious, and in that case the disease had not been recognized until the beginning of the second week, so that several days had elapsed before any calomel was given. Whether or not this fact was the cause of the delirium, he would not undertake to say—he merely mentioned it. The same patient was sick the longest time, and had the most copious evacuations. The true value of this specific plan of treatment could not be arrived at from such a limited number of cases, but he could recommend its further trial.

Dr. G. C. PAOLI thought we could rely on nature in light cases, and that such cases served to explain the temporary popularity of the various specific plans of treatment that had sprung up at one time and another and been abandoned. He had seen cases run their course in eight, nine, or ten days, and he had seen others continue for twenty, twenty-five, thirty, or forty days; again, he had seen the disease in a malignant form go on to a fatal termination speedily. He relied a good deal on nourishment and careful nursing. He thought there was danger in the plan of using two beds, as suggested by the author, for, when Peyer's glands were inflamed, or when their cicatrization was incomplete, moving the patient from one bed to another might lead to trouble. The diarrhœa of typhoid fever could not be stopped, but we could control it within certain limits. He did not believe that there was such a thing as a typhoid-fever bacillus, or that one would ever be discovered. He gave but little quinine in the disease, and had seen two patients die from the administration of forty grains of the drug during an attack.

Dr. C. G. DAVIS was glad to see prominence given to the hygienic plan of treatment; formerly, under the notion of scourging the disease out of the system, too much medicine had doubtless been given. His observation had been that the mortality varied in different years and in different localities; he had seen it as high as twenty per cent. and as low as four per cent. A favorite piece of medication with him was to give a twenty fourth of a drop of tincture of nux vomica and a sixth of a drop of tincture of aconite-root every four hours; this lessened the tendency to irritation of the gastro-intestinal mucous membrane, and he did not regard it as homœopathic.

Dr. C. E. WEBSTER usually followed the expectant plan. He sometimes ordered brandy in teaspoonful doses as occasion required.

Dr. R. RANDOLPH gave a minute description of his method of applying cold water. An oil-cloth was placed under the patient, after his night-shirt had been pulled up over his head, and then cool water was pressed out of a sponge over the surface of the body. The oil-cloth was easily removed when the process was over. He had never seen quinine reduce the temperature; on the contrary, he believed that it acted as a cardiac depressant.

Dr. G. W. WEBSTER could speak of cold baths from personal experience, having had typhoid fever himself. The baths that he was subjected to produced very severe shock, so that, after having had two or three of them, he had refused to submit to any more. Moreover, they did not reduce his temperature more than a tenth of a degree. Sponging with tepid water, however, was such a pleasure that he looked forward to it eagerly. He was given large doses of quinine, which so weakened his heart that he did not recover from the effects for as much as a year. He had seen salicylate of bismuth used very successfully in a number of cases.

Dr. RANDOLPH remarked that more attention was now given to the temperature than to the pulse, and that the observation of the pulse was getting to be one of the lost arts.

Dr. G. W. WEBSTER called attention to the secondary dilating action of cold upon the superficial capillaries, and instanced the burning sensation felt in the hands soon after handling snow or ice.

Dr. ANGEAR doubted if this observation would apply to the moderate cold that was used in the treatment of fevers.

Dr. G. NEWKIRK did not think it necessary to apply cold to reduce the temperature. The warm pack imparted a pleasant sensation of quiet and rest, and kept the skin active, which was an essential point in the treatment.

The paper was further discussed by Dr. R. E. STARKWEATHER, the PRESIDENT, and Dr. O'SHEA.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of December 11, 1884.

The President, Dr. B. F. WESTBROOK, in the Chair;
Dr. A. H. P. LEUF, Secretary.

Great Hypertrophy of the Heart.—Dr. L. E. TIESTE read the history of the case of a cook, thirty-eight years old, who, ten years before his admission into St. Mary's Hospital, had a severe attack of rheumatism, which was followed by frequent attacks of dyspnœa. For the past eight years he had had rheumatism often, but not severely, and he had never regained his original health. He had become addicted to the excessive use of malt liquors, suffered from ascites and œdema of the limbs, and for some time had passed too little urine. When he was admitted, his abdomen was greatly distended with fluid, his limbs were swollen, and he had the characteristic appearance of chronic Bright's disease. The urine contained about one fourth its bulk of albumin. Four months before his admission he had contracted syphilis. He was given the "mixed treatment," also infusion of digitalis and acetate of potassium, and his bowels were kept free by the frequent administration of pulvis purgans. This treatment improved his general condition and mitigated the symptoms. There were very loud murmurs, indicative of both mitral and aortic stenosis and regurgitation, and the cardiac pulsations could be felt with the hand on any part of the chest. He continued to improve for over three months; then the abdomen began to enlarge again, and in September it was necessary to draw off the fluid. After about three weeks of comfort he was suddenly seized with violent dyspnœa, which was relieved in a short time, so that he passed a quiet night, but a second attack, the next day, ended in his death. Œdema of the lungs, enlargement of the liver, and interstitial change in the kidneys were found, and the heart was enormously hypertrophied, weighing over two pounds.

Acute Dysentery.—Dr. BERNARD J. HAMMILL related the case of a woman, forty-five years old, who was admitted into St. Mary's Hospital, August 21, 1883, in the service of Dr. George R. Kuhn. She was in a dying condition at the time, and the only history that could be got was that she had been sick for about a week with some abdominal complaint. She died the next day. An autopsy was made by Dr. Leuf, who reported that the lungs were healthy, except for slight senile emphysema; that the heart was flaccid and contained very little blood; that the stomach was normal; that the liver was small, but otherwise normal; that the small intestine was slightly injected, especially its peritoneal coat; that the mucous membrane of the large intestine was thickened, ecchymotic, and ulcerated throughout, but especially in the sigmoid flexure and the rectum; that the kidneys were small, with their connective tissue slightly increased, and moderately contracted; that the spleen was small and pale; and that the pancreas was very yellow.

Neglected Injury of the Hand.—Dr. C. N. D. Jones presented a specimen and read the history of the case. [See p. 331.]

Perityphlitis.—Dr. David Myerle related the case of a patient eighty-three years old who, on the 25th of October, complained of impaired appetite and of cold sensations across the abdomen. The tongue was slightly coated. A mild aloin laxative was given. On the 28th the dose was repeated. On the 29th, at noon, nausea and vomiting suddenly came on, and there was tenderness at about the lower margin of the liver. Temporary relief was given with sinapisms. The tongue was slightly reddened at the margins and thickly coated at the base, but moist; the temperature was 101° F. Dr. Olcott was called in consultation, and thirty grains of sulphate of magnesium were given, to be repeated in six hours if no movement had resulted in that time. There was no pain, but there was occasional nausea. On the 30th, repeated injections were used, but failed to produce a movement. There was slight tympanites; the tongue was brown at the base and drier. Stimulating injections, containing turpentine, were finally successful in producing free fæcal evacuations. The temperature was now 100°, the heart was weaker, and stimulants were ordered. On the 31st there was considerable tympanites, bile was vomited several times during the day, and the patient was rapidly lapsing into a typhoid condition, rousing only when spoken to loudly, but having no pain. On the 1st of November the temperature was 99°. The patient died at 2 A. M.

The autopsy, made by Dr. J. H. Hunt, showed the absence of general peritonitis, but the presence of localized inflammatory products binding the cæcum to the adjacent viscera, with fæcal impaction above the ileo-cæcal valve, the appendix vermiformis being softened and distended with the results of inflammation. No tangible evidence could be found of the origin of the perityphlitis. There was also cystic degeneration of both kidneys. The points of interest were: the sudden invasion; the impossibility of inducing evacuations of the bowels; the absence of decided pain; the low temperature (never exceeding 101°); and the absence of all trace of the primary exciting cause, which, however, might reasonably be assumed to have been a grape-seed, for the patient had indulged freely in grapes within a day or two of first complaining.

In answer to a question by the President, Dr. Hunt stated that but little fæces had been found in the rectum post mortem.

The First Stage of Typhoid Fever.—Dr. Isaac H. Platt read the history of the case of a school-teacher, twenty years old, who was admitted into St. Mary's Hospital on the 2d of September. About the middle of August, while wheeling a child's carriage along Rockaway Beach, she was overpowered by the heat, as she believed, and was confined to bed for a few days. She then improved, however, and was able to go about again, but did not recover her strength completely. She had chilly sensations at times, pain in the back, headache, and general malaise; but, so far as her friends knew, she had no diarrhœa or epistaxis. This state of things continued until the night of August 31st, when she became slightly delirious. The delirium was more marked the next night, and it was that that led her friends to send her to the hospital. A sister of hers, who had been sick for about five weeks, and was then recovering, had had somewhat similar symptoms, and her physician had diagnosticated typho-malarial fever.

On her admission, the patient seemed very sick, and the dull and listless expression of her face corresponded with her mental condition. Her pupils were dilated; her tongue was coated with a whitish fur; her pulse was 120 and dicrotic; her temperature was 103°; and she had a slight cough. Examination of the chest showed only moderate subacute bronchitis. She was given five grains of quinine every three hours, and milk-punch at frequent intervals. At 7 P. M. her temperature was 103·5°, and her pulse 118; about that time violent delirium set in and lasted all night, in spite of the use of bromide of potassium and chloral, so that at times it took four persons to restrain her.

On the morning of September 3d the delirium became low and muttering, the temperature was 103·5°, and the pulse was 125, small and feeble. The diagnosis was reserved, and the treatment continued. There was no material change during the day, except that she grew weaker. In the evening she was sinking fast; her temperature was 105°; her pulse was 140 and very weak; and her tongue had become quite dry and brown. She died at 3 A. M., thirty-six hours after her admission.

At no time, so far as any trustworthy history could be obtained, had there been any diarrhœa, tympanites, iliac tenderness or gurgling, eruption, or epistaxis. She was not under observation long enough to show any characteristic temperature changes. The autopsy, made by Dr. Leuf, showed the intestinal lesions of the first stage of typhoid fever well marked, in some places passing into the stage of ulceration. The case seemed interesting from the opportunity of seeing the lesions at an unusually early period, and because there were typical evidences of typhoid fever with a total absence of anything specially characteristic of that disease in the clinical history.

Dr. Leuf's Notes of the Autopsy, made eight hours after death.—The body was emaciated, and the rigor mortis moderate. The lungs were hypostatically congested. The heart was soft and flaccid, and contained a little fluid blood in all its cavities. There was no clotted blood found anywhere. The spleen was of twice the usual size, but otherwise healthy. All the other organs were normal in appearance except the small intestine, the agminated and solitary follicles of which were in the first or congestive stage of typhoid fever. The Peyerian patches of the lower metre of the ileum were raised quite a sixth of an inch above the surface of the mucous membrane, and were highest at the center; they had a dark-red appearance. The solitary follicles were affected in like manner, and each was surrounded by a red areola, making it look like a dark-red circular patch about a third of an inch across. They were suggestive of pictures of a small-pox eruption. The upper part of the ileum and the jejunum contained a quantity of the ochre-colored and offensive material peculiar to typhoid fever, but there was none of it situated lower.

Dr. Hunt thought that the disease must have advanced beyond the first stage, to judge from the lesions, and therefore he could not help doubting the primary condition of the intestinal follicles.

Dr. Leuf replied that seeing was believing. He was willing to admit that the patient was at the end of the third stage, but it was certain that the intestinal lesions were in the main those of the first stage—that of engorgement and tumefaction. It was true that many of the follicles, both solitary and agminated, were more or less ulcerated, but it was also a fact that the vast majority of them were simply reddened and swollen.

Dr. Noah Tittemore presented a specimen of strangulated hernia resulting in death from intestinal obstruction and peritonitis; also a specimen of multiple intestinal invagination, from the body of a child.

Strangulation of the Ileum.—Dr. Hunt then presented a specimen of intestines, which showed how a band of inflammatory lymph had extended across the gut and, by contracting, eventually so strangled it as to cause death. The case showed the advantage of early abdominal section, for it was fair to assume that, had the abdomen been opened early, and the band severed, the patient would have recovered.

Dr. Josephine A. Dupré related the history of a case that showed the importance of an early diagnosis. A middle-aged man had marked constipation, and, under medical advice, took two doses of castor-oil, some calomel, some citrate of magnesium, and a four-ounce rectal injection, and had hot fomentations applied to the abdomen. The speaker was then called in, and found him with hiccough and marked exhaustion, but with no vomiting, and with a pulse normal in frequency but poor in character. Stercoraceous vomiting afterward occurred, and he soon died. At the autopsy eighteen inches of the ileum were found twisted and re-twisted upon themselves, causing the strangulation. Probably the man's life could have been saved if an early diagnosis had been made.

Dr. Hunt stated that both these cases had been treated by men of conservative, "let-alone" principles. It was probable that early surgical interference would have saved both lives.

Dr. George R. Fowler thought that too many men were in the habit of waiting for something to "turn up" before they were willing to do anything, so that it usually happened that the patient's toes were the things to "turn up." The "let-alone" principle was the outcome of fear and prejudice in regard to abdominal section. The comparative innocence of the procedure should oftener be held up to view.

Dr. A. Ross Matheson presented a cancerous stomach, and related the history of the case.

Stricture of the Cæcum.—Dr. Leuf showed a specimen of this lesion, which had caused death. The constriction was at the ileo-cæcal valve and a little above and below it, and the case had taken the course usually followed under such circumstances when the termination was the same.

NEW YORK ACADEMY OF MEDICINE.

Meeting of February 19, 1885.

The President, Dr. A. Jacobi, in the Chair.

Electricity as a Stimulant in Cardiac and Respiratory Failure was the title of a paper read by Dr. Gaspar Griswold. [It will be published in full hereafter.]

Dr. A. D. Rockwell thought electricity more valuable in restoring respiration than in stimulating the heart. It acted unequally, according to whether it was applied to the pneumogastric nerve on the right or on the left side. Some years ago he had observed that the primary effect upon the heart was to cause diminished action, whereas the secondary effect was increased rapidity of action. Theoretically, the precautions urged by the author were well founded, but practically electricity could be used with much greater impunity than he would have us believe.

Dr. Fordyce Barker remarked that the author had called attention to the difference in the action of ether and chloroform on the heart. Notwithstanding the depressing influence of chloroform anæsthesia upon the heart, he had for years advocated chloroform for the pains of labor in preference to ether. In surgical operations, where anæsthesia was brought on before the existence of pain, and of the increased nervous and cardiac activity to which pain gave rise, ether was much safer. In the pains of labor matters were reversed, and chloroform was indicated. This was true, notwithstanding there might be organic heart disease.

Dr. R. W. Amidon regretted that the author had not told what he would use in place of electricity in conditions contra-indicating the employment of that agent. He thought the precautions in regard to the use of electricity in cardiac failure were none too strongly stated, because in most instances patients were under the care of the general practitioner, who probably would not be sufficiently experienced to employ electricity with any degree of safety. As had been pointed out by the author, electricity was not so simple an agent as some seemed to suppose; on the contrary, it might prove a very dangerous remedy.

Dr. L. Putzel did not think the clinical points made in the paper were in accordance with facts. It was impossible to speak, with any definite meaning, of galvanizing the pneumogastric nerve in the human subject. As to a strong current applied in this situation causing heart failure, he had not witnessed it. He had employed electricity over the region of the pneumogastric in a number of cases of exophthalmic goître, and had never seen any immediate distinct effect upon the heart.

Dr. J. L. Corning took exception to the statement by Dr. Putzel, that electrization of the pneumogastric or phrenic nerves was impossible in the human subject. In a case of exophthalmic goître his instrument had been used by Dr. Chichester, with the result of reducing the pulse-rate from 140 to 80 in a short time.

Dr. A. H. Smith remarked that the object in using electricity in opium poisoning was to stimulate the respiration, and this could best be done by applying the poles to the surface briefly, avoiding cardiac depression by long-continued applications. He thought that under excitement the physician was liable to overrate the slowness of respiration, and carry flagellation to a depressing extent.

Dr. Putzel said, in reply to the remarks of Dr. Corning, that he did not mean to convey the impression that galvanization of the neck never produced slowing of the pulse, nor did he mean to say that galvanization of this region might not affect the pneumogastric; further, he did not mean that galvanization was not useful in exophthalmic goître.

The President had used electricity in former years a good deal, more especially in asphyxia of the newly born. There it certainly came in as a valuable remedy in many instances. It was about ten or twelve years ago that he made a communication on the subject to the New York Obstetrical Society, in which he reported that electricity applied for any length of time, as from four to six seconds, at first caused a lowering of the pulse and improvement in the respiration, which condition within a few seconds gave place to paralysis. This effect was produced more speedily by applying the electrodes in the region of the phrenic and pneumogastric nerves. He found the most practical way of getting benefit from electricity was not to confine the applications over the lines of nerves at all, but to touch the surface here and there over the muscles: and, as Dr. Smith had said, the poles should be applied for but a moment at a time. This was followed by a deep inspiration, and was of benefit.

Dr. Griswold thought the reason more patients were not killed in opium poisoning by the use of the strong electrical current was that the pneumogastric nerve had become paralyzed by the action of the poison. He did not mean to condemn the use of electricity, but to caution against its dangers. Artificial respiration was safe and efficient, whereas stimulation of the phrenic nerve to produce the same result might be inefficient and dangerous, and it was better that the physician should devote his whole attention to the former than resort to an uncertain means which might cause the death of the patient. He spoke of the local anæsthetic effect of chloroform, and stated that the best means to resuscitate a patient from heart failure due to the influence of chloroform was to substitute ether.

The Electro-osteotome and several other appliances were shown by Dr. M. J. Roberts.

Meeting of March 5, 1885.

The President, Dr. A. Jacobi, in the Chair.

Dr. Alfred C. Post and Dr. John T. Metcalfe were unanimously elected honorary fellows.

The Ætiology and Treatment of Nasal Catarrh, with Special Reference to the Deviated Septum.—Dr. William C. Jarvis, the author of the paper, said that for several years he had employed the following classification as denoting different forms of deviation of the nasal septum: Osseous, cartilaginous, osseo-cartilaginous, and hypertrophic. By far the most common form was the cartilaginous; next in frequency was the osseo-cartilaginous. The causes of nasal catarrh depending upon these forms of deviation of the septum were, first, pressure irritation, and, second, defective drainage. Deviation of the septum was either hereditary, traumatic, or acquired. The inherited form often co-existed with, and was dependent upon, a peculiar formation of the hard palate. The palate being abnormally high and irregular, caused the nasal septum to be deflected to one side, and the higher the elevation of the palatine arch the greater the deviation of the septum. But a palatine arch of considerable depth, if regular, need not necessarily be attended by deviation of the septum. A peculiar conformation of the parts over the upper jaw often existed in cases of deviated nasal septum which could be recognized at once, and thus the physician was often enabled to say that the person was subject to chronic nasal catarrh. The author opposed with some warmth the custom of looking to a diathesis or specific constitutional taint as a determining factor in nasal catarrh. Remarkable intellectual faculties were ikely to be accompanied by nasal catarrh, the encroachment of the cranium upon the skeleton of the face causing deviation of the nasal septum and thereby catarrh. Traumatic deviation of the septum and catarrh were frequently met with in pugilists and persons of low life.

Dr. Jarvis then exhibited a variety of instruments employed n the correction of deviation of the septum, and said he employed a ten-per-cent. solution of cocaine as an anæsthetic, or, n cases of great sensitiveness, rhigolene could be used. The explosion of rhigolene was pretty effectually guarded against by he employment of the electric light inclosed in a small glass chamber. Foster's improved battery was exhibited.

Dr. F. H. Bosworth took issue with the author on several points. He would drop the word catarrh, as it had too wide a signification; it covered the whole area of nasal diseases. The diagnosis of diseases of the nose could easily be made since the ntroduction of cocaine. As to pressure irritation being an etiological factor, this idea was not new, having been raised in a paper by Harrison Allen, published in the "American Journal of the Medical Sciences" for January, 1876. The theory was hat two mucous surfaces permanently in contact within the nasal cavity would cause catarrh. If this were true, the nasal cavity differed from other mucous cavities in the body. Pressure was an adventitious circumstance in hypertrophy of the nasal mucous membrane, and had, he believed, nothing to do with he cause of catarrh. Dr. Bosworth did not think defective drainage had anything to do with the ætiology of nasal troubles. The mucus of the nose was harmless, and it mattered little in what direction it went. He regarded the deflected septum as the most frequent cause of nasal catarrh, but not on account of the pressure irritation or the defective drainage to which it gave rise; but because of narrowing of the air passages, interfering with the normal function of the nose as a breathing organ, and causing rarefaction of the respired air, and thereby dilatation of the venous sinuses. Dr. Jarvis had discountenanced the idea of the influence of diathesis, but had unfortunately referred to a condition which illustrated his ideas, as it was a case of pretty well recognized mollities ossium. Dr. Bosworth had seen two cases of the peculiar malformation of the palatine arch with deviation of the septum referred to by the author. The indications for treatment he thought were clear, being to remove the obstruction to the nasal passage; and this could be done by any instruments which the operator found best adapted to his use. As to cocaine, he had found a two-per-cent. solution sufficiently strong, and also costly enough.

Dr. S. O. Van der Poel, Jr., had practiced a method recommended by Dr. Roberts, of Philadelphia, for correcting deviation of the nasal septum, in five cases, the result in two cases being quite satisfactory, and in the others more or less satisfactory. It consisted in retaining the deviated septum in its corrected position by means of a pin. The pin, being small, scarcely acted as a foreign body, and constituted no deformity while it was worn.

Dr. D. B. Delavan said that one would be astonished, on examining a number of skulls, to find how many showed deviation of the nasal septum. But it was also true that the nostril on the concave side of the septum might be less patent than the other, due to an enlargement of the turbinated bone on that side. Therefore removal of the mucous membrane and underlying tissues on the convex side of the septum did not always relieve the patient of his trouble, because it did not touch the abnormal condition on the opposite side. He thought that the enlargement of the middle turbinated bone on the concave side of the septum should first receive treatment, and, if the patient was not then relieved, the deviation of the septum might be corrected.

Dr. Jarvis had used the word catarrh as the one most commonly employed. He had distinctly stated that the normal mucous secretion of the nose was harmless; but when in diseased states it became thick, it certainly possessed irritating and harmful properties. He agreed with Dr. Delavan that the malformation mentioned by him might exist, but it occurred only seldom. With regard to the use of pins, he could not get his patients to submit to that mode of treatment.

Recurrent Fibroma of the Breast at Seven and Eleven Years of Age.—Dr. George G. Hopkins, of Brooklyn, presented a microscopical section of a fibroma of the breast which was first removed by a physician in the West when the little girl was seven years of age. The tumor recurred, and was, together with enlarged axillary glands, excised by Dr. Hopkins when the child was eleven years of age.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of February 11, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Hydrosalpinx.—Dr. P. F. Chambers presented the right ovary and Fallopian tube, removed, for hydrosalpinx and a cyst of the ovary of the size of a hen's egg, in January. The patient had suffered for eight years with severe pain in the right side of the pelvis, and from repeated attacks of localized peritonitis. The left ovary was small and so firmly adherent that no attempt was made to remove it. The patient was relieved of pain, and recovered from the operation without accident.

The Coccus of Acute Lobar Pneumonia.—Dr. T. M. Prudden presented microscopic sections showing the coccus which Friedländer maintained was always present in acute lobar pneumonia. Dr. Prudden had not failed to find it in a number of specimens which he had examined, and had also found it in ten cases of broncho-pneumonia in children. Whether the relation between the coccus and the disease was one of cause and effect had not been positively determined.

Laparo-hysterectomy.—Dr. H. Marion-Sims presented a uterus, the seat of eight fibroid tumors, together with the appendages, which he had removed five weeks before for the relief of long-continued pelvic pain and frequent and excessive menstrual flow. The patient was now enabled to be about the room.

Epithelioma beginning in the Soft Parts and finally involving the Tibia.—Dr. G. F. Shrady presented a leg which he had recently removed for malignant disease by supracondylar amputation of the thigh. The patient had suffered for forty years with a sore on the leg, probably originating in an injury. A year after its appearance a piece of the tibia exfoliated. About two years ago pain was so severe that he had to resort to crutches, and about seven months ago a false point of motion was observed, showing that the tibia was breaking down. Dr. Shrady saw the patient a week ago, when it was evident there was malignant disease of some form, but a positive diagnosis was not made until after the amputation, when Dr. W. H. Porter found it to be epithelioma. The infiltration with cancerous cells did not extend as high as the point of amputation, nor down to the foot. It would seem that no treatment had been employed during the long continuance of the disease. Dr. Shrady had no knowledge of another case in which epithelioma had progressed and involved the bone secondarily.

Dr. Porter said Billroth spoke of epithelioma developing in the integument, gradually extending, and involving the bone secondarily.

Dr. Ripley was not sure that had an operation been done earlier the patient might have escaped epithelioma. Many men had sores for forty years and did not get epithelioma; many men had epithelioma without having had a sore for forty years; and it was possible for a man to have epithelioma for forty years.

Dr. Shrady agreed with Dr. Ripley, but, while it was possible, it was not probable that his doubts would be confirmed in practice. The clinical history seemed to show very plainly that until a comparatively recent time there had been a benign sore which had become malignant.

The President thought malignant disease often resulted from irritation, with or without an hereditary tendency.

Dr. Porter said that when he and Dr. Satterthwaite were preparing their report upon cancer the conclusion to which they came was that in the majority of cases its origin was in long-continued irritation of some kind.

Cardiac Disease; Erysipelas following Cutaneous Puncture for Anasarca.—Dr. J. H. Ripley presented the heart of a man, twenty-seven years old, who died in St. Francis's Hospital February 6th. He had been in the hospital in June, 1884, with acute Bright's disease and mitral insufficiency. He was discharged improved, but returned in January, complaining of pain over the heart, and swollen feet at night. There was general anasarca, with hydrothorax and cough. There were four cardiac murmurs: 1. Systolic, heard with greatest distinctness at the apex, conveyed posteriorly, loud and blowing in character. 2. Systolic, heard with greatest intensity at the base, transmitted into the large vessel. 3. Diastolic, heard with greatest intensity at the xiphoid cartilage, circumscribed. 4. A slight superficial friction sound at the junction of the second rib with the sternum on the left side. Several punctures were made about the malleoli, the inner aspect of the thighs, and the scrotum, also on the left hand, which was much more œdematous than the right. A large amount of fluid dribbled away through the punctures, and the symptoms improved greatly. About a week after the punctures in the back of the left hand had healed, erysipelas developed in the extremity, and was one of the factors in causing death. The points of interest in the case were: *First.* The development of erysipelas after puncture for œdema. While in this case the inflammation could not have been excited by the punctures, which had healed, in another case which had come under his observation since Dr. Carpenter brought the question before the society, two or three years ago, the erysipelatous inflammation had evidently been due to the punctures. These were the only two cases in which he had known punctures for œdema to be followed by erysipelas. But it should not be forgotten that erysipelas was liable to develop in some cases whether puncture was made or not, and that the relief which the draining away of the fluid gave more than compensated for any slightly increased risk of its development. *Second.* At the autopsy the pericardium was found adherent to the heart throughout the entire extent except near the base, and it was there that a slight friction sound had been heard. He had noticed in several cases of chronic pericarditis œdema of the left arm particularly. *Third.* The heart was found to be immensely hypertrophied and greatly dilated; the mitral valve was the seat of stenosis, thickening, and insufficiency, and this led him to say with regard to the so-called pre-systolic murmur occurring with stenosis of the mitral valve that he thought it very rare. He had examined this patient repeatedly and with great care, but no pre-systolic murmur was to be heard. *Fourth.* Dr. Loomis had stated that when there was adhesion of the pericardium to the heart and to the chest walls, the apex-beat would be found above its normal position and not displaced to the left. In this case it was displaced downward and to the left, showing that no general rule on this subject could be made.

Dr. Van Santvoord thought it was too much to say that the pre-systolic murmur of mitral stenosis was infrequent. During quietude the murmur frequently existed as simply a prolongation of the first sound of the heart, but under excitement it could be recognized as a distinct murmur.

Dr. Porter had confirmed the diagnosis of mitral stenosis, based upon the existence of a pre-systolic murmur, by post-mortem examination of two cases. He thought there could be no question that the murmur was produced by obstruction to the flow of blood from the auricle into the ventricle.

Dr. Ripley did not doubt that the murmur sometimes occurred, but that it was infrequent was a belief founded upon his own observations and those of Dr. Leaming and others. The pre-systolic murmur was sometimes said to indicate mitral stenosis when the autopsy showed no such lesion.

Dr. W. M. Carpenter had found that it was unusual for erysipelas to follow punctures for the relief of œdema.

Dr. Gerster said it was a well-known fact that in cases of chronic œdema of an extremity caused by a local disturbance in the circulation, inflammation of the skin occurred from time to time without any known external lesion—a form of dermatitis which resembled erysipelas in some respects.

Tuberculosis of the Larynx in a Child.—Dr. Van Santvoord presented the larynx of a child two years and seven months old which contained small tumors supposed to be tubercular in character. The history seemed to be against the idea of its being syphilitic. Tubercle of the larynx in so young a subject was a very rare affection. The specimen was referred to the Committee on Microscopy.

Destruction of the Lung in a Child.—Dr. S. J. McNutt presented specimens removed from the body of a child four years and a half old, whose clinical history was unknown. The left lung was completely destroyed, and only a comparatively small portion of the right lung remained useful. There were tubercular masses throughout other portions of the body.

Dr. Carpenter had recently made an autopsy on the body of an adult, and found one lung destroyed and the other emphysematous.

Meeting of February 25, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Sarcoma of the Kidney, with Secondary Involvement of the Mesenteric Glands.—Dr. A. Jacobi presented for a candidate the specimens obtained from the body of a girl six years of age.

Old Bullet-Wound of the Chest.—Dr. R. C. M. Page presented a man who, in 1864, received a bullet-wound in the shoulder. The ball went from behind forward, downward, and to one side, and was not found. The patient finally recovered his usual health, but of late had complained more or less of pain in the left breast, a short distance below the clavicle. In July last he spat up blood for the first time, and in November entered the Roosevelt Hospital, suffering from an irritating cough, and occasionally spitting up blood. When the patient visited the Northwestern Dispensary, recently, Dr. Page found a spot of consolidation in the lung at the seat of pain. It was his impression that the bullet had lodged at this spot and become encapsulated, and had recently become dislodged and given rise to the pulmonary hæmorrhage. A number of cases were on record in which a bullet had lain quiescent in the lung for some years, finally becoming dislodged and giving rise to symptoms.

Dr. W. H. Porter presented three specimens illustrating different lesions of the genito-urinary tract.

Hydrocephalus in the Adult.—Dr. T. M. Prudden exhibited a brain with distension of the lateral ventricles, which had been removed from the body of an Italian. Distension of the lateral ventricles was the only abnormal condition found in the brain at the autopsy. There was broncho-pneumonia.

Congenital Craniotabes.—Dr. Prudden also showed the brain of a child, hardened in its natural form. The child died at the age of twenty-eight days. The central cavities of the brain took up about half the space within the cranium. Another hydrocephalic brain was presented, removed from a child which died at the ninth month. For the second specimen he was indebted to Dr. W. P. Northrup.

Dr. A. Jacobi had seen but one case of congenital craniotabes. The affection was very rare.

Dr. Northrup said that this was the only case he had seen.

The Ætiology of Cancer.—Dr. Shrady presented a specimen bearing upon a question raised at the last meeting regarding the influence of long-continued irritation of a benign ulcer in the development of malignant disease. The specimen was one of epithelioma of the breast, removed from a man forty-five years of age, who had had an ulcer, due to a burn, on the breast for some years before the malignant disease developed.

Uterine Fibroids and Hydrosalpinx; Death from Chloroform.—Dr. H. J. Boldt presented specimens of fibroids of the uterus and one of hydrosalpinx with an extremely thin sac. The latter condition showed the necessity of operating early to prevent rupture into the abdominal cavity and the development of peritonitis. The patient had suffered for two years from symptoms probably due to a uterine polypus which was removed. She was subsequently put under the influence of chloroform for diagnostic purposes, and died from the influence of the anæsthetic. Chloroform was used only at the beginning, ether being substituted afterward. Although he had been in the habit of using chloroform as an anæsthetic for diagnostic purposes, this lesson would teach him to give it up.

Dr. Northrup said there were physicians who made it a custom to begin anæsthetization with chloroform, afterward substituting ether, and he asked if this was not as dangerous as to give chloroform throughout.

The President thought it might be even more dangerous. He had but twice employed any of the mixtures for anæsthetic purposes, and on those occasions had come near losing his patients. He thought the use of chloroform in general anæsthesia should be condemned most severely, except perhaps in children under twelve years of age. It was to be regretted that physicians would not cease the use of chloroform anæsthesia until they learned a lesson taught by the death of a patient. Dr. Boldt deserved credit for making his case known, a thing which many physicians probably did not do.

Dr. Porter understood that Dr. Lusk had recently written a paper in which he called attention to the danger of using chloroform even during labor.

Cysts of the Ovary.—Dr. H. Marion-Sims presented two cystic ovaries, from different patients, which had caused much suffering. Their removal relieved the suffering, and the patients made a prompt recovery from the operation.

Ovarian Carcinoma.—Dr. Northrup exhibited a large cancerous mass which had developed in the ovary and caused death by exhaustion and peritonitis. The specimen was interesting chiefly from the peculiar shape which the cancerous mass had assumed.

Spindle-cell Sarcoma of the Brain.—Dr. Frank Ferguson presented a large tumor of the brain, removed from the body of a man thirty years of age. Two years before his death he was said to have been suddenly attacked with paralysis of the right side. He so far recovered that he was able to go around with difficulty. During the last two weeks he complained of severe headache and pain in the left parietal region. He became unconscious before death, and the temperature rose to 105° F. The tumor which was found at the autopsy weighed four ounces and a half, and measured nine inches in its greatest circumference and six in its smallest; it had developed from the dura mater, pressed upon the convolutions, and largely destroyed the ganglia at the base of the brain on the left side.

Spindle-cell Sarcoma of the Spinal Cord.—Dr. Ferguson also presented the spinal cord of a man who had died with symptoms of myelitis with ascending and descending degeneration. The tumor was of about the size of an almond, cystic, and developed from the pia mater. The cord had not yet been examined microscopically, but the tumor was a spindle-cell sarcoma.

Reports on the Progress of Medicine.

OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

Total Synechophthalmia or Ankylophthalmia.—Cuignet (" Rec. d'ophth.," May, 1884) speaks of a case of this disease characterized by a wrinkled, contracted cicatrix adherent to the union of the inner third with the outer two thirds of the lids and eyeball, in the vertical direction. There were complete inferior symblepharon, partial symblepharon of the upper lid, and a phthisical atrophied globe from destruction of the anterior segment of the eyeball on the right side. Cuignet advised and performed the following operation: He grasped the central scar of the atrophied globe and made an incision around it; he then dissected up the remains of the mucous membrane as far as the insertions of the recti muscles. The latter were slowly separated by careful dissection close to the sclerotic, and then, still carefully advancing and dividing with the scissors, he reached and divided the optic nerve. The ultimate result of such a dissection and enucleation will be a notable reduction and, perhaps, an obliteration of the conjunctival cavity, with a more or less extensive adhesion of the eyelids to the bottom of the hollow inversion of the ciliary margins, and immobility of the eyelids.

Anthrax of the Upper Lid; Double Facial Phlebitis; Purulent Inflammation of both Orbits; Partial Necrosis of both Corneæ.—Boucher (*Ibid.*) reports the case of a man, aged twenty-one, which began as a furuncle of the wing of the nose, and this was followed by a small anthrax of the upper lid. The face soon became red and œdematous, and the eyes protruded markedly from the orbits. The upper lids resembled the condition of purulent ophthalmia. The lower lids were everted. There was considerable chemosis. The vision was reduced to perception of light. The case proved very obstinate and painful, and was complicated by the occurrence of very unpleasant head symptoms. Four months and a half after the onset of the disease there were anterior staphyloma of both eyes, involving the iris and cornea, diffuse corneal opacities, and but a trace of vision.

Temporal Hemianopia.—Berry ("Ophth. Rev.," June, 1884) publishes two cases of this rare disease, in one of which the hemianopia had existed for two years in much the same condition as at first, while in the other there was a steady improvement from the beginning, though the characteristic blindness remains. The first case was that of a man, aged twenty-eight, in whom the typical temporal blindness was slowly developed, remained for a considerable time unaltered, and then proceeded to almost total blindness. The second case was that of a woman, aged thirty-two, in whom the lesion was not a spreading one, and must have produced the maximum destruction or pressure antero-posteriorly along the chiasm. Both patients recovered their general health completely.

Graves's Disease, with Proptosis.—Russell (*Ibid.*) reports a case of this nature in an ill-developed, ill-nourished girl, aged sixteen, who had never menstruated. She presented well-marked exophthalmus on the left side only. In both eyes the upper lids were quite retracted. Von Graefe's symptom was developed in both eyes imperfectly, if at all. There was a small goître alike on the two sides of the neck. The proptosis was originally present in both eyes, and subsequently declined in the right. Though cardiac symptoms were not entirely absent, the character of the pulse stood in direct contrast with that belonging to the immense majority of cases of Graves's disease. The number of the pulse-beats was only once above ninety. Palpitation had been complained of, but the first complaint of this symptom preceded by six months the earliest sign of Graves's disease. The persistence in the right eye of Stellwag's sign, after the disappearance of the proptosis, was worthy of notice. The patient had also had repeated attacks of chorea during the preceding six years, which had been most severe on the left side of the body.

The Determination of the Degree of Latent and Manifest Squint in Meter-Angles.—Berry (*Ibid.*, July, 1884) calls attention to the possibility of practically measuring, with sufficient accuracy for all purposes, the abnormal deviation of one eye, either manifest or latent, by means of the meter-angle notation of Nagel, which the latter employed for the measurement of convergence. After a number of trials, he finds that the number of meter-angles of deviation varies directly as the distance from the point of fixation of the fixing eye to the point where the visual axis of the other eye meets the plane, and indirectly as the product of half the distance between the eyes and the perpendicular distance between the parallel planes through the centers of rotation and of fixation. By this method of examination and notation a great number of points connected with muscular defects might be readily studied.

Syphilitic Periostitis or Gumma of the Orbit.—Hunicke ("Amer. Jour. of Ophth.," i, 4) reports a very interesting case of this nature, in the person of a woman, aged twenty-nine, who had suffered for two years from intense headache and pain in the region of the right infra-orbital nerve. Eight months before she was seen, she was unable to close her right eye, and there was ectropium of the lower lid. The facial paralysis came on gradually, and disappeared again after two months' duration. Then a swelling appeared on the center of the forehead and grew slowly until it acquired the size of an ordinary hazel-nut. It was round, hard, somewhat red, and painful. After a few weeks this tumor diminished gradually, but during all this time there was intense pain in the right orbit, and she began to have diplopia. On examination, there was found a circumscribed roughness, as large as a dime, on the os frontis, with exophthalmus of the right side, the eye being turned outward as well as pushed forward, and the diplopia crossed. There was but little motion to the eyeball. There was almost complete ptosis. The upper and inner portion of the orbit was occupied by a round, semi-hard tumor, as large as a cherry, immovable, broader at the base than at the apex, with a smooth surface and of uniform consistence. The optic disc was pale. The patient was placed under the influence of iodide of potassium internally and mercury by inunction, as rapidly as possible, and in six weeks all signs of the tumor had disappeared, the exophthalmus had subsided, and single vision was re-established.

Dermo-epithelioma of the Cornea.—Parinaud, in a short paper upon this kind of growth ("Arch. d'ophthal.," July–Aug., 1884), which he regards as new and undescribed, gives the clinical characteristics of the neoplasm as follows: Of a reddish-yellow color, semi-translucent aspect, surface sometimes lobulated, situated close to the margin of the cornea, generally the external, tends to spread superficially and to extend around the greater part of the margin of the cornea; there is no deep ulceration; and the growth is freely movable over the sclerotic. Most of the patients affected by this growth are quite young.

The Treatment of Ulcus Serpens Corneæ by Erasion and the Application of Iodoform.—Meyhöfer ("Kl. Mon. f. Aug.," May, 1884), in a long article upon corneal ulcers in general and the ulcus serpens in particular, finds that the purely medical treatment gives very unfavorable results, even when iodoform is used locally. But, when the surface of the ulcer and its cavity have been carefully scraped or scooped out clean, the application of iodoform gave much better results. In many cases, however, the iodoform failed in producing any benefit until the cornea had been split according to the directions of Saemisch, but modified by Meyhöfer, in that the incision is not carried through the ulcer, but merely through the healthy tissue on each side of it. In many cases where recourse has been had to the corneal incision, the daily application of iodoform to the ulcer hastens the recovery very decidedly.

Astigmatic Keratitis.—Martin, in a third article ("Ann. d'ocul.," May–June, 1884), mentions some observations of Prouff made by methodical inspection of the sclera, which he terms scleratoscopy. The results of his observations are as follows: 1. If the eyeball, toward the equator, appears sensibly round, in the sense that an equatorial section of the sclera would present the figure of a circle, the cornea belongs almost exactly to the spherical form, and hence there is no congenital astigmatism of the cornea. 2. If the eyeball toward the equator seems flattened and folded in the opposite direction, the cornea belongs to the form of an ellipsoid with three unequal axes, and there is here an irregular astigmatism of the cornea. 3. The long axis of the elliptical corneal image is parallel with the long axis of the elliptical figure presented by an equatorial section of the sclerotic. The same is true for the short axes. The more the eyeball seems flattened, the more pronounced is the corneal astigmatism. 4. Scarcely any congenital corneal astigmatism exists in which there is no flattening of the equator of the sclerotic.

Astigmatic Blepharospasm.—Martin (*Ibid.*) gives the result of his examination of five cases of clonic spasm of the eyelids of astigmatic origin. In all there was asymmetry of the meridians, with the greater spasm on the side of the greatest anomaly. The cure was effected promptly with atropine and cylindrical glasses. He assumes that blepharospasm due to astigmatism is more frequent than that due to any other form of ametropia. Hence every case of blepharospasm should first be examined as to the refraction of the eye in its various meridians, and the patient should then be placed under the influence of atropine. At the same time the state of the branches of the fifth nerve should be examined, so as to exclude all possibilities of reflex action from this side through the medium of the facial nerve.

Retinal Hæmorrhages in the Course of General Arterio-Sclerosis.—Artigalas, in a contribution to the semeiology of hæmorrhages of the fundus (*Ibid.*), draws the following conclusions: 1. Retinal hæmorrhage without traumatism is always the result of a lesion common to the cerebral arteries. 2. Retinal hæmorrhage is always followed by cerebral hæmorrhage if the degenerative process continues. 3. Retinal hæmorrhage is observed in parenchymatous epithelial albuminous nephritis, as well as in interstitial nephritis. 4. Retinal hæmorrhage is always one of a group of symptoms in which are associated one or more lesions of the heart, kidneys, lungs, and brain. 5. With whatever symptoms retinal hæmorrhage may be associated, it is always dependent upon the fibrous degeneration of the arteries.

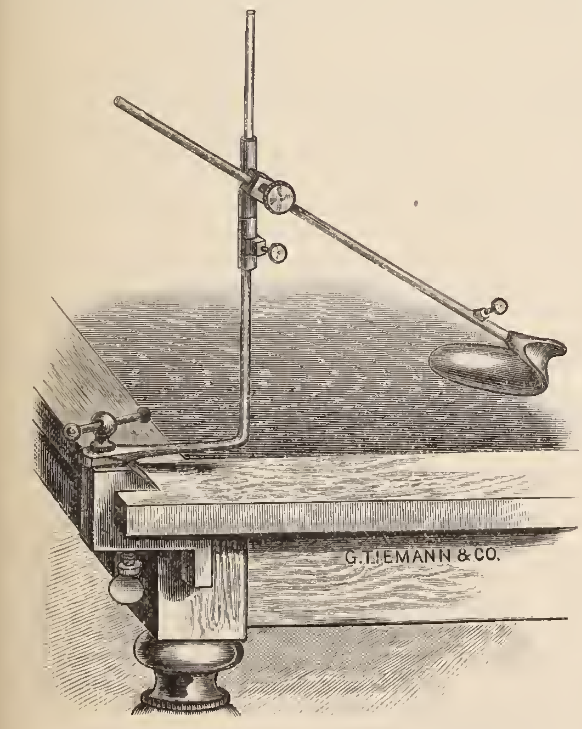
Melanotic Sarcoma of the Conjunctiva.—Lagrange ("Arch. d'ophthal.," July–Aug., 1884), from his own experience and from the published reports of cases of melanotic sarcoma of the conjunctiva, draws the following conclusions: 1. The external melanotic sarcomata of the eye are developed exclusively in the conjunctiva. 2. These tumors are developed especially at the expense of the limbus or union of the sclerotic and cornea. 3. They extend over the eyeball, covering the sclerotic and cornea, which, however, take no part in their development, and are but little affected by the growth of the neoplasm. 4. Though the development of these tumors is remarkably slow and their nature apparently benign, their structure is that of malignant melanotic growths; hence they should be removed at once and completely.

New Inventions, etc.

A HOLDER FOR SIMS'S SPECULUM.

By Frank P. Foster, M. D.

The profession is more or less familiar with a number of devices to enable Sims's speculum to be used without an assistant. For the most part they have not been found satisfactory by any but their inventors. The contrivance shown in the accompanying cut has not only done good service in my hands for several years past, but, so far as I am aware, is well thought of by those of my friends who have made use of it.



It consists of a clamp to be fastened to the edge of the table, which serves as a support for an upright rod jointed to it by a short horizontal arm. The sweep of this arm is sufficient to admit of any necessary adjustment of the lateral direction of the traction, and a short tube sliding on the upright, capable of being fixed at any desirable height, sustains the traction rod. The tractile force is supplied by the elasticity of the upright rod. The speculum itself is simply a Sims's blade with a cylindrical shank to engage in the tubular traction rod.

Miscellany.

Civil Service Reform and the Marine-Hospital Service.—In its March issue, the "Medical Chronicle," of Baltimore, edited by Dr. George H. Rohé, the author of an excellent work on hygiene, says: "In a recent issue of the Washington 'Star' it is stated that efforts are being made to secure the appointment of Supervising Surgeon-General of the Marine-Hospital Service for Dr. A. N. Bell, of New York. We hope President Cleveland's administration, with which we are in thorough sympathy, will not make such an unwise appointment. The present head of the Marine-Hospital Service has administered the duties of his position with energy and zeal, and, although the extra duties imposed upon the service by Congress and the President could, in our opinion, have been more efficiently and satisfactorily performed by the National Board of Health, we are not disposed to censure Surgeon-General Hamilton for carrying out the instructions of his official superiors. We think the medical services of the Government should be especially secure against partisan inroads, and we trust that Dr. Hamilton will not be removed to make a place for an outsider. Such action would completely set aside the principles of civil service reform and violate the pledges upon which Mr. Cleveland was elected to the Presidency. Even if it is regarded by the Treasury Department as advisable to remove Dr. Hamilton, we think a far better selection could be made among the officers of the service than that above named. The late Surgeon-General Woodworth, under a Republican administration, took the Marine-Hospital Service out of politics. It would be a serious blunder to restore the spoils system under a democratic reform government. We invite the attention of Secretary Manning to these considerations."

The College of Physicians and Surgeons, of Chicago, held its third annual commencement at the Grand Opera House on Tuesday, the 10th inst., when the degree in medicine was conferred on sixty candidates. The Hutton prize, for the best examination in diseases of the mind and nervous system, was divided between Dr. W. E. Allen, of the graduating class, and Mr. W. W. Kane, of the class of 1886; and honorable mention was made of Dr. J. B. Eagleson in connection with the same examination.

The Indiana State Board of Health.—Dr. W. A. Fritsch, of Evansville, has been appointed to fill the vacancy caused by the resignation of Dr. Compton, of the same city.

The University of Vermont.—Dr. Ambrose L. Ranney, of New York, has been appointed to the chair of nervous diseases in the Medical Department, in place of Dr. W. J. Morton, resigned. It is announced that Professor Ranney will give a course of lectures in this department every year, in addition to his course on anatomy.

The Eastern District Dispensary and Hospital, of Brooklyn.—We learn that Dr. Susan R. Pray has been appointed on the staff.

Murdock's Liquid Food.—Dr. B. N. Towle, of Boston, who, in his essay entitled "Raw Food Extracts and their Value," read at the last meeting of the American Medical Association, omitted to specify the preparations that he referred to, writes as follows to the Murdock Liquid Food Company: "In answer to your inquiry as to what form of raw food I used in obtaining the results reported in my paper, read before the American Medical Association at Washington, D. C., I reply that I used several forms, but the one I relied upon was your Liquid Food."

The Hydrangea Arborescens.—The "Medical and Surgical Reporter," of Philadelphia, says: "The value of this native plant in renal affections was first made known to the medical public by the former editor of this journal, Dr. S. W. Butler. Recently Lambert & Co., of St. Louis, have combined the active elements of the plant with lithia in a preparation called 'Lithiated Hydrangea,' which unites the virtues of both these remedies. In the 'Chicago Weekly Review' two cases of rheumatic gout with renal complications are reported by Dr. F. S. Senier, of Waukesha, Wis., where this preparation in doses of a drachm, thrice daily, largely diluted, acted with prompt and satisfactory effect. The combination seems to us a happy one."

A Memorial Medal.—We learn from the "Lancet" that £100 are to be offered to the London University toward the foundation of a medal in memory of Dr. Rabbeth, who perished from diphtheria contracted by sucking the membrane out of a child's trachea through the opening made in tracheotomy.

The Medical Department of Howard University, Washington, held its sixteenth annual commencement on Monday evening, the 9th inst., when the degree in medicine was conferred on twenty-five candidates.

Robert Koch and his Achievements.—The April number of the "Journal of Comparative Medicine and Surgery," to the editor of which we are indebted for advance sheets, will contain a remarkable article, by Professor Albert Johne, of the Royal Veterinary Institute at Dresden, embodying a sketch of Dr. Koch's career and a very satisfactory exposition of the main features in his methods of studying bacteriology. It seems that Koch was born at Clausthal, in the Hartz Mountains, in 1843, and studied medicine in Göttingen and Berlin from 1862 to 1866. In the summer of the latter year he acted as an assistant in the General Hospital of the city of Hamburg, and soon afterward he began the career of a general practitioner, which he followed in several small places in the vicinity of Hanover and in Posen. In 1872 he was appointed *Kreis-Physikus* for the city of Wallstein, in Posen, and it was there, we are told, that he laid the foundation of his course of researches, while busily engaged in a practice that was constantly increasing and was largely surgical. At that time he made his remarkable studies of the ætiology of anthrax and the life-history of the *Bacillus anthracis.* He next turned his attention to the study of the morbid states due to infection from wounds, as recorded in the work entitled "Die Aetiologie der Wundinfectionskrankheiten," published in Leipsic in 1876, in which he confirmed the observations made by Klebs, von Recklinghausen, Waldeyer, and Birch-Hirschfeld with reference to micrococci in connection with pyæmia and puerperal fever, pyæmia in the rabbit, and other diseases of traumatic origin in the lower animals, including an affection that became somewhat noted as the result of his researches, septicæmia in the mouse. He proved by direct experiment, says Professor Johne, that all these diseases were due to the introduction of micrococci into the organism, thus furnishing positive scientific proof of the conclusions that Lister had already drawn from and supported by practical experience. The attention of the Government, and of the medical profession throughout the world, having now been drawn to the humble *Kreis-Physikus* of Wallstein, he was promoted, in 1879, to the dignity of *Physikus*, and he then removed to Breslau. But he does not seem to have been suited at Breslau, for he soon went back to Wallstein, to remain for only a short time, however. In 1880 he was made a member of the Imperial Board of Health, and with his labors in that station the "Mittheilungen des kaiserlichen Gesundheitsamtes" have made the world familiar.

The Fourth German Medical Congress (*Congress für innere Medicin*), we learn from the "St. Petersburger medicinische Wochenschrift," will be held at Wiesbaden from the 8th to the 11th of April. The following subjects will come before the meeting: The Treatment of Corpulence, by Ebstein and Henneberg, of Göttingen; Bronchial Asthma, by Curschmann, of Hamburg, and Riegel, of Giessen; Antipyresis, by Filehne, of Erlangen, and Liebermeister, of Tübingen; Hypnotics, by Liebreich, of Berlin; New Remedies, by Binz, of Bonn; The Surgical Treatment of Asthmatic Conditions, by Hack, of Freiburg; The Statistics and Ætiology of Acute Articular Rheumatism, by Edlefsen, of Kiel; The Movements of the Stomach, the Pylorus, and the Duodenum, by Rossbach, of Jena; Uræmia, by Fleischer, of Erlangen; Pseudomotor Nervous Action, by Heidenhain, of Breslau; and The Behavior of the Chlorates in the System, by Edlefsen, of Kiel.

THERAPEUTICAL NOTES.

Jacaranda Lancifoliata.—In a recent issue we noted the results that had followed the use of this South American plant in the treatment of venereal affections, in the hands of a contributor to the "British Medical Journal." Mr. Alfred Wright ("Lancet") calls attention again to the drug as a remedy for gonorrhœa. He gives from twenty to thirty minims of a fluid extract of the leaves three or four times a day. It acts promptly in the acute stage, diminishing both the pain and the discharge, and the writer states that he has cured gleet with it that had resisted all other treatment. Jacaranda is said not to give rise to any of the unpleasant after-effects that attend the use of most of the anti-blennorrhagic remedies.

Antiseptic Silk.—Freeman (*Ibid.*) uses Chinese twist which has been rendered aseptic by boiling for ten minutes in a two-per-cent. solution of chromic acid, and then soaking for twelve hours in a one-per-cent. solution of the same. He states that the sutures may be left *in situ* for three weeks without the occurrence of either suppuration or softening of the silk. Silk thus prepared is especially useful in operations about the genital organs in women, as well as in laparotomy.

Cocaine in Acute Coryza.—Dr. W. S. Paget ("British Medical Journal") has produced gratifying results by the application of a four-per-cent. solution to the interior of the nostrils by means of pledgets of cotton. Permanent relief was experienced after a single application. The solution may also be injected into the nose. The writer believes that cocaine will become the remedy *par excellence* in hay fever.

Burnt Alum as a Topical Application.—Goldfeld ("St. Petersburg med. Woch.") recommends burnt alum, either as a substitute for iodoform or in a mixture containing four parts of alum to one part of iodoform. The cheapness of the former substance is the great argument in its favor. The writer maintains that the mixture that he suggests possesses all the advantages of iodoform. It should not be applied to a suppurating wound, he says, because of its irritating action.

Tincture of Benzoin in Nasal Catarrh.—Mr. Alfred Kebbell ("British Medical Journal") recommends the inhalation of the vapor of this preparation for the relief of catarrh of the nasal passages. It is to be inhaled from a bottle, without artificial vaporization.

Codeine in Pruritus Vulvæ.—Bullock ("Lancet") states that he has used codeine in one-grain doses for three months without relieving his patient from an obstinate diabetic pruritus. He found that fomentations of hot water gave prompt and satisfactory relief.

Caffeine in Bright's Disease.—Gubb (*Ibid.*) states that he has employed this drug, in doses of five grains three times a day, in Bright's disease, in cases in which the urine was very scanty and loaded with albumin, and ascites and general œdema were marked. After four days of treatment, the amount of urine was increased sixfold, and threatening uræmic symptoms disappeared. Under a persistent use of the drug, the albumin was reduced to a trace, cerebral and ocular disturbances vanished, and the patient was practically cured.

Quinine as a Parturient.—Dr. Andrew Mullan ("British Medical Journal") professes to have produced contractions of the uterus by means of quinine under circumstances in which ergot had failed. After citing several illustrative cases, he draws the following inferences: 1. Quinine (or quinetum, which he also recommends), when administered in doses of four grains, will occasion uterine contractions in the course of half an hour. 2. Cinchonism and other unpleasant after-effects are not produced. 3. The pains are intermittent in character, and thus resemble the normal uterine contractions. The condition of tetanic contraction does not occur. 4. Post-partum hæmorrhages are not likely to result after the use of quinine, because the uterus is not left in a state of exhaustion after delivery.

The Cauterization of Buboes.—Martineau, says the "Lancet," has succeeded in rapidly curing suppurating buboes by touching them with Paquelin's cautery.

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Original Communications.

A SUCCESSFUL OPERATION FOR THE EXTRACTION OF A PISTOL-BALL FROM THE BRAIN

THROUGH A COUNTER-OPENING IN THE SKULL.

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About three years before I performed the operation which I am about to describe there was admitted into the Ninety-ninth Street Hospital, of which I was then in charge, a young man suffering from a pistol-shot wound of the brain. The bullet had penetrated the center of the forehead, and at the time of my visit the patient was unconscious. To give exit to the pent-up discharges from the wound, and to relieve the brain from pressure, I freely incised the wound in the soft parts and chipped away bone from the margin of the bullet-hole. There was a marked but transient improvement of the symptoms. At the post-mortem examination, two or three days later, I observed that the bullet entering the skull had taken a straight course through the brain to the opposite side of the skull, striking which, it had rebounded into the brain and was deflected downward about an inch, where it lodged at a slight depth beneath the membranes. I further observed that the wound through the brain had begun to granulate and acquire a distinct wall that opposed a considerable resistance when felt with the probe.

The course of the ball appeared to me what might have been expected; it seemed reasonable that the missile, moving through a medium of uniform resistance like the brain-substance, would take a straight course to the opposite wall of the skull, where it should rebound and be deflected at an angle proportionate to the inclination of the inner surface of the skull, and, from its greatly lessened velocity, lodge not far from the surface of the brain. Impressed by the conditions found at the post-mortem examination, I resolved that in another instance of similar injury I would try to track the bullet, and, after extracting it, drain the wound. This resolution was confirmed by reflecting upon the instances of brain injury within my experience, wherein, on the one hand, good drainage had contributed to a favorable result, while, on the other hand, faulty drainage had sometimes led to disastrous consequences.

On the 24th of January, 1884, I was informed by my house surgeon that Bruno Knorr, a healthy young man, nineteen years old, had, on the morning of that day, been admitted into one of my wards at Bellevue Hospital, suffering from a pistol-shot wound penetrating the brain through the center of the forehead. On my visit at 3 p. m. I found the patient semi-unconscious. When aroused he was irritable, and in answer to all questions grunted "ja." There was complete loss of motion without loss of sensation on the right side of the body below the head. The left side of the body was hyperæsthetic. This increased sensitiveness was very marked upon the left side of the scalp near the ear. The pupils were of equal size and rather widely dilated. His pulse was 100, temperature 101·4°. There was no history of the circumstances of the occurrence of the injury. It has, however, since been learned from the patient that, at about half-past four o'clock on the morning of the day of admission to the hospital, while lying upon his back he shot himself with a pistol held in contact with the forehead. Instantaneously he became unconscious, and remained so for about three quarters of an hour, after which he awoke, and with much difficulty, on account of weakness from loss of blood, arose and left the house. He walked about an eighth of a mile, and then got upon a horse-car while in motion and took a seat inside. When called upon by the conductor to explain the nature of his injury, he could not speak, although he knew what he wanted to say. After riding about three quarters of a mile he was put off the car by the conductor. He distinctly remembered having swung himself from the car with the aid of his right hand. After walking about an eighth of a mile farther, he stood upon the corner of the street till a policeman came and conducted him about one third of a mile to the station-house. There he was questioned by the officer in command, but was unable to speak. Not long after he became unconscious. He was admitted into the hospital at about 8 a. m., when his wound, from which brain-matter was oozing, was dressed antiseptically.

Preparatory to the operation the patient's scalp was shaven. He was then etherized. A flap of gutta-percha tissue was fastened to his forehead to protect his eyes from the antiseptic solution of bichloride of mercury, 1 part to 1,000 of water, with which the parts were to be irrigated during the operation. The bullet-hole, of small size, was very nearly in the center of the forehead. The skin at the right margin of the opening was more ragged than at the left side. The epidermis was blistered off for a little distance from the opening. There were no powder grains in the skin. The soft parts were puffy.

To ascertain the direction of the wound through the soft parts and bone beneath, a silver probe with a large knob was passed into the wound perpendicularly to the surface of the skull. To pass the probe through the opening in the bone I found it necessary to direct its course outward at an angle slightly divergent from the median plane of the head. In passing the probe thus far, the right margin of the opening in the skull was felt to have a depressed shelving edge. An incision an inch and three quarters long was then made from below upward to the center of the bullet-hole. This incision was parallel to the median line and just to the left of it.

From the center of the bullet-hole two other incisions of equal length were made divergent from the first one in a direction upward and outward. These incisions liberated some brain-matter that had collected between the scalp and pericranium. The flaps formed by the incisions were rapidly dissected back. The bleeding, which was quite profuse, was in great measure stopped by catgut ligatures applied to the larger vessels. The persistent bleeding from very small vessels was checked by traction upon the everted flaps by means of loops of catgut.

While the incisions were being made, and throughout the subsequent steps of the operation, the wounds were kept constantly wet by frequently repeated irrigations with the antiseptic solution. The bullet-hole in the skull was about half an inch in diameter; its left margin was sharply cut and formed by the external table, which slightly overhung the inner table; its right margin was shelving and depressed, the external table being fractured in concentric curves for a short distance from the margin of the opening. The shape of the hole in its depth through the bone indicated, what had already been ascertained by probing, that the ball, in its backward course, had diverged at an acute angle from the median plane of the head. The pericranium was cut along lines corresponding to the external incisions, and gently pushed back from the bone in the vicinity of the bullet-hole. The bullet-opening was then enlarged—brain-substance meanwhile escaping—by gnawing away with a *rongeur* forceps the bone at the left and overhanging margin. A small rim of lead weighing one grain, stripped from the bullet as it passed through the bone, was picked from the skull at the right margin of the bullet-hole. A small piece of bone, which at first, from its discoloration, was supposed to be a part of the bullet, was found lying upon the brain and removed. While enlarging the opening in the skull a small clot was disturbed, which gave rise to a slight but persistent arterial bleeding from beneath the depressed fragment at the right margin of the bullet-hole. The portion of the external table holding this fragment was cut away. Upon the removal of this fragment from the inner table, whose sharp convex edge had been driven into the brain, the arterial hæmorrhage became alarmingly profuse. To this arterial bleeding was now added a considerable venous flow from the superior longitudinal sinus, which had been cut across by the bullet. While the wound was cleared of blood by the stream from the irrigator, the arterial blood was seen to come from a vessel in a small flap of pia mater on the inner side of the first frontal convolution at the border of the cerebral hemisphere. No sponges were used upon the lacerated brain during the operation. The bleeding point, constantly in motion, only imperfectly seen under the irrigating stream, and with a soft backing of contused and lacerated brain-structure, was only after considerable difficulty seized with a Langenbeck's artery-forceps. The opening in the skull was three quarters of an inch by an inch and three quarters. While I held the forceps, the ligation of the thin-walled vessel in its grasp was intrusted to an assistant, who, in his attempt to tie the vessel, tore it. The shortened artery now bled alarmingly. The wound could not be so cleared of blood as to yield a view of the vessel and permit its seizure. I found that the bleeding could be restrained, though not completely stopped, by pressing with the ball of the thumb through the opening in the skull back upon the brain. The bleeding point could then be felt forcibly striking against the thumb. While compression was thus exerted by an assistant, the primary incision upon the left side was rapidly extended, the soft parts were reflected, the bone was uncovered of its pericranium, and a disc of bone five eighths of an inch in diameter removed with the trephine at a spot above and to the outer side of the existing opening in the skull. The thin bridge of bone separating the trephine-hole from the main opening was cut away and the opening enlarged laterally. Upon the withdrawal of the assistant's thumb about three quarters of an ounce of mixed clot and brain-matter was forcibly extruded by the brain pulsations. While the wound was flushed by the stream of antiseptic solution, the vessel was seized with a Péan's forceps.

I saw that it was in a delicate flap of the loosened pia mater. It was caught close to a bifurcation, a large branch being plainly seen curving along the inner face of the hemisphere. While the Péan's forceps, moved by each brain-pulsation, was sustained upon the finger of an assistant, with the aid of two pairs of dissecting forceps I passed a carbolized silk ligature around the vessel and tied it. Upon removal of the Péan's forceps the pulsations of the vessel loosened and threw off the ligature, and the bleeding became as profuse as ever. After several flushings of the wound, I seized the vessel for the third time. It was caught, somewhat deeper than before, upon the trunk below the point of its bifurcation. I saw clearly that the vessel could not be tied.

Fearing that the slightest movement of the patient's head might tear the delicate vessel from the forceps and cause an inevitably fatal hæmorrhage, I decided to transfer the vessel to the grasp of the short and light clamp, shown in Fig. 1, that could lie in the wound without such risk of detachment. While I held the Péan's forceps in the left hand, with the right hand I passed the small clamp into the depth of the wound so that its opened jaws just encroached upon the end of the Péan's forceps holding the vessel; simultaneously, as the Péan's forceps was unlocked and its grasp loosened, the jaws of the smaller clamp were allowed to close upon the vessel. This critical manœuvre was accomplished without tearing the delicate artery, or the loss of a drop of blood. The hæmorrhage from the superior longitudinal sinus had already stopped spontaneously. Two hours and a half had been spent in reaching this stage of the operation.

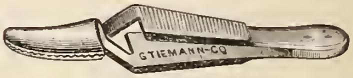

Fig. 1.—Small artery clamp, actual size.

Having cleared away the formidable complication of hæmorrhage that had threatened the patient with speedy death, and his general condition being good, I proceeded with the attempt to follow the course of the ball with the probe. After having reflected much upon the subject of probing wounds of the brain, I had come to the conclusion to adopt the same method, so far as applicable, in their exploration that had been the outcome of my experience in the probing of other wounds.

In probing a wound, it is essential that the end of the exploring instrument shall be of such a size as not easily itself to wound the tissues and make a false passage. The end should therefore be large. Not only does a large extremity to the probe save the tissues from injury and diminish the chance of making a false passage without the exercise of an undue amount of force, but the large end, even when it is deep beneath the surface of the body, is easily discoverable by palpation or dissection. In probing a wound to learn its course, depth, and other features, we should be able to follow or infer with exactness, from the exposed portion of the instrument, the varying positions of its buried end. It is further essential, therefore, that the end shall hold a fixed relation to the shaft, or, in other words, that the probe must have sufficient rigidity to retain a given shape. This rigidity is requisite to the practice of another procedure to determine the location of the exploring extremity—namely, conjoined manipulation through the medium of the probe. The shaft of the probe should not only be rigid, but should also have a considerable bulk, that a large surface may be in contact with the fingers and subject to the informing touch. Finally, the probe fulfilling these requirements should be as light as possible in order that the delicacy of touch should not be lessened in the exertion to move a heavy mass, and that vibrations that would otherwise be lost in the probe itself may be communicated to the hand. The probe combining these properties has the shape shown in Fig. 2, and is made of tempered aluminium. The large end will generally pass along the sinuses connected with the wound, and, from its size and shape, it is often possible to tell the nature of the structures with which it comes in contact. It is only exceptionally that the smaller end need be used.

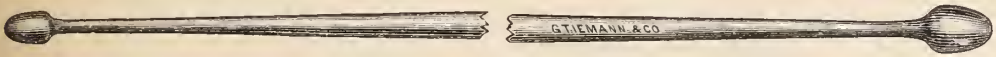

Fig. 2.—Design for a probe; actual size, except the length, which is twelve inches.

In probing, to curve the instrument is to complicate it and increase the chances of error in interpreting the position of the exploring extremity.

When the probe is curved near the exploring end, the other end of the shaft should be bent in the same plane in the opposite direction.

In case the sinus is tortuous, rather than complicate the exploring instrument, I am in the habit of simplifying the wound. Thus, in following such a sinus, the end of the instrument, after it has passed along one curve, should, if practicable, be brought toward the surface and exposed by careful dissection. The first curve having been eliminated, the re-bent probe can be introduced through the new opening at the commencement of the second curve, and the latter explored.

In a thirteen years' active hospital service, I can not recall that I have ever used, in the probing of wounds, the fallacious means of exploration afforded by a flexible mechanical instrument.

The patient's head was now placed in such a position that the presumed track of the ball to be probed was perpendicular to the horizon. This was done that the delicacy of touch might not be obscured by the effort to direct the probe out of a perpendicular. The ragged opening of the entrance of the ball was seen to be just at the inner edge of the hemisphere, in the first frontal convolution. The large end of a copper probe, shaped as shown in Fig. 2, was passed perpendicularly into the brain past the clamp holding the artery. In passing the probe into the brain I feared, in lessening my grasp to increase the delicacy of my touch, that the heavy instrument would slip through my fingers, plow a false passage through the brain, and thus render futile all further search for the ball. Accordingly, after the probe had been passed to a depth of three inches, it was withdrawn, and a perfectly straight, common Nélaton's probe selected as a substitute. This lighter instrument was passed to a depth of about six inches, where a soft resistance was felt, but which no effort was made to overcome. The depth to which the probe was passed established my inference that the bullet had passed through the hemisphere and struck the opposite side of the skull. The probe was left standing in the brain, and, from the direction of the portion protruding from the forehead, viewing the head at the side and vertex, the point upon the scalp was noted at which the probe would emerge if projected through the head. Having observed the shape of the skull at this place, a cross was marked upon the scalp with the scalpel at a point three quarters of an inch lower down toward the base of the skull, in the supposed plane of the path of the ball. The probe was withdrawn. The wound was dusted with iodoform and the flaps were temporarily drawn together, due regard being paid to the protruding handle of the little clamp that held the offending artery.

The point of the scalpel was then thrust to the bone through the center of the cross marked upon the scalp. Three incisions, diverging from a common center, were made in the same manner as in exposing the bone at the bullet-hole anteriorly. The flaps were rapidly dissected back from the pericranium and retracted. All bleeding vessels were ligated. The pericranium was incised and pushed back over a space large enough to admit the crown of a trephine, and a disc of bone five eighths of an inch in diameter removed. The dura mater was healthy. The brain did not seem to beat with normal force, but this was doubtful. The dura mater seemed to cover a dark background. Catching the membrane with a uterine tenaculum, and lifting it from the surface of the brain, I slit it for a quarter of an inch in a direction toward the supposed point of emergence of the bullet. A small quantity of dark fluid blood oozed from the opening when the brain was pressed upon. Two large veins in the pia mater appeared at the opening in the dura mater. I at first thought that one of these veins had been wounded, but careful scrutiny of the wound, under repeated flushings from the irrigator, convinced me that these vessels were intact, and that the opening had been made upon effused blood beneath the dura mater, in the vicinity of the brain injury. The trephine-hole was enlarged with a *rongeur* forceps toward the assumed opening of emergence of the bullet. A grooved director was passed beneath the dura mater, and the slit in that structure lengthened in the same direction. More dark blood, of a syrupy consistence, issued when pressure was made through the opening upon the brain. The bone was still further gnawed away, and the opening in the dura mater was made large enough to admit the end of the index-finger. Although the light for the operation was a bad one, being that reflected from three or four candles by a tin wash-basin, I discovered two or three specks of brain-matter of about the size of pin-heads floating in the blood as it came from the wound. With the point of the index-finger I felt a resistance in the brain at the depth of about half an inch. Rather than explore this resistance with a needle, I thought it better to follow the trail of brain-matter. By cutting away more of the skull in the same direction, and enlarging the opening in the dura mater, more brain-matter appeared, together with a semi-fluid clot. By still further exposing the brain in the same direction, at last there came quite a gush of brain-matter, and the opening torn in the pia mater by the bullet, as it struck the skull and rebounded, became visible. This opening in the pia mater was about half an inch in length, and about three quarters of an inch above the center of the trephine-hole. The probe was introduced through the opening in the pia-mater in a direction toward the resistance felt with the finger. After passing about one inch, it came in contact with the bullet at a depth of about half an inch below the pia mater. By the aid of a slender-bladed anatomical forceps, the battered bullet, weighing forty-two grains, was extracted. Thus was the bullet tracked by means of the probe throughout its whole course to its place of lodgment and removed.

The patient's head having been placed in the same position as during the first trial, the Nélaton's probe was again gently passed through the wound through the brain. At a depth of about six inches it met with a resistance. Leaving the probe standing in the brain, by gentle pressure with the tip of the finger in the posterior wound I could stir the probe and felt that the obstruction to its passage was the dura mater alone. After slitting this membrane for a quarter of an inch farther, the end of the probe passed readily into view. At a depth of about five inches from the anterior opening I thought I detected a foreign body in the wound. But there might have been contact of the handle of the probe with the little clamp in the anterior wound, for when this was held aside I failed to again feel any extraneous substance. However, this introduced a doubt as to the freedom of the wound from foreign matter, and led me to use a small-sized rubber tube instead of catgut for a drain. This tube had been made aseptic in a two-and-a-half-per-cent. solution of carbolic acid, and was further washed in the bichloride solution. One end of the tube was slipped over the handle of the probe and tied in place with carbolized silk. The probe was then drawn through the brain in the direction taken by the bullet. The tube, as it was drawn through the wound, became filled with brain-detritus and blood. No effort was made to clear its caliber by injecting the antiseptic solution through it. The blood in the tube could be seen pulsating. The projecting ends were cut off to within an inch and a half of the skull and transfixed with safety-pins.

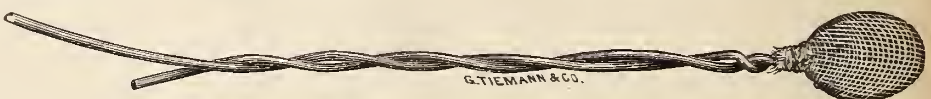

Fig. 3.—Design for a compressor, two thirds actual size.

At both the anterior and posterior wounds the flaps were brought partly together by sutures at their bases, room being left for the ends of the tube and the artery-clamp. The wounds were dusted with iodoform, covered with Lister's protective silk, which was in turn dusted with iodoform. Over the protective, iodoform gauze was loosely packed, and over all a combined dressing of borated cotton held between layers of carbolized gauze was applied. The space beneath the brows having been filled with borated cotton, the eyes were covered in by the bandages which secured the dressings.

The operation was completed in about four hours from its commencement, the greater portion of the time having been spent in stopping the cerebral hæmorrhage. The following-named members of the house staff were present at the operation: Dr. R. T. Morris, Dr. J. R. Conway, Jr., Dr. W. W. French, Dr. J. H. Woodward, Dr. H. N. Williams, Dr. P. Oppenheimer, Dr. H. S. Wildman, Dr. H. Herman, Dr. H. Biggs, Dr. E. Hurd, Dr. C. F. Roberts, and Dr. W. G. Rutherford.

The patient's general condition after the operation was about the same as when it was undertaken. He was transferred to the Sturgis Pavilion, special orders being given that he should not be allowed to suffer from retention of urine, and that pain should be relieved by sufficient doses of morphine.

At nine o'clock P. M. the patient's temperature was 101° F., his pulse 120, and respiration 32. A hypodermic of Magendie's solution of morphine, ♏vii, was given; his urine was drawn by gum-elastic catheter.

One of the imminent dangers that threatened the patient's life was hæmorrhage from the clamped cerebral vessel. In such a contingency I considered it almost impossible to secure the vessel by ligature or clamp. I thought the best course to stop the hæmorrhage, though a forlorn hope, would be by the use of the actual cautery. To overcome the difficulty of cauterizing a bleeding vessel at the bottom of a pool of blood, I made different-sized and -shaped loops of stiff wire, as shown in Fig. 3. These loops were covered tensely with a layer of cloth. It was my intention, should hæmorrhage recur, to compress the bleeding vessel by means of one of these loops, and, while the bleeding was thus temporarily checked and its source defined, to burn with the Paquelin cautery through the cloth directly upon the vessel. The different loops were kept in carbolized water ready for use, but, fortunately, the utility of this device was not put to the test.

January 25th.—The patient is in about the same condition as before the operation. He is semi-comatose, still hyperæsthetic upon the left side of the body, and irritable when aroused. He drinks milk with an apparent relish, and puts out his tongue when told to do so. His urine is drawn by catheter.

Hypodermics of Magendie's solution, ♏v at 5 A. M.; ♏v at 9 P. M.

A. M., temperature 100·5°, pulse 100, respiration 18; P. M., temperature 100·75°, pulse 76, respiration 24.

26th.—The patient's general condition is the same as yesterday. He drinks an ample quantity of milk. Urine is passed involuntarily.

Hypodermics of Magendie's solution, ♏v at 1 A. M.; ♏iv at 4 P. M.; ♏ij at 12 P. M.

A. M., temperature 100°, pulse 100, respiration 14; P. M., temperature 100·8°, pulse 74, respiration 21.

27th.—The dressings have been pushed upward from the eyes, and there has been a little oozing of blood from beneath them. At 5.30 A. M. the anterior portion of the dressings was removed. There was no hæmorrhage. The artery-clamp was lying in position. It and the end of the drainage-tube were surrounded with brain-substance. At 12.30 P. M. the dressings were removed from the posterior wound. The deeper portions of the dressings were soaked with discharges. The scalp near the wound was œdematous. To make sure that there were no discharges pent up within the wound, the adherent edges of the flaps around the drainage-tube were torn open down to the pia mater. The end of a grooved director was insinuated between the drainage-tube and the margin of the opening in the membrane, and the drainage of the wound found to be good. Bleeding from a vein in the pia mater was checked by a small compress of iodoform gauze. This dressing was done under constant irrigation with the bichloride solution. The wound was redressed in the same way as previously. The patient is becoming more conscious.

One ounce of castor-oil was given, and produced an evacuation. Urine in part passed involuntarily and in part drawn by catheter.

Hypodermics of Magendie's solution, ♏iij at 6.30 A. M.; ♏iij at 5 P. M.; ♏iij at 10 P. M.

The patient is very sensitive to the influence of morphine, three minims hypodermically given being usually sufficient to allay pain or quiet restlessness.

A. M., temperature 100°, pulse 74, respiration 15; P. M., temperature 100·8°, pulse 100, respiration 17.

28th.—The patient can move his right toes when urged. When questioned he answers in short sentences, but he is still very stupid. The discharge from the posterior wound appeared through the dressings. These were wetted with the bichloride solution, 1 to 1,000, then dusted with iodoform, and finally covered with the combined dressing of borated cotton between layers of carbolized gauze. Urine passed partly involuntarily and partly by catheter.

Hypodermics of Magendie's solution, ♏ iij at 3 A. M.; ♏ iij at 11 P. M.

A. M., temperature 101·2°, pulse 90, respiration 17; P. M., temperature 100°, pulse 82, respiration 20.

29th.—The patient says he is feeling very well. Discharges having again soaked through the dressings, iodoform and combined dressings were applied over the existing dressings. At 4.30 P. M. all dressings were removed, and the wounds inspected under continuous irrigation with the bichloride solution. The anterior wound is healthy; the scalp and exposed brain are beginning to granulate. The artery-clamp seems still to grasp tissue, and is pushed toward the surface of the brain. It is not disturbed. Under moderate efforts to start it, the drainage-tube seems immovable, and further traction is desisted from for fear of provoking hæmorrhage. The œdema near the posterior wound has disappeared from the scalp. The compress that was applied to the bleeding vein in the pia mater at the last dressing is removed without recurrence of hæmorrhage. The wounds are redressed as heretofore with iodoform protective, iodoform gauze, and combined dressing, all being carefully bandaged on with gauze bandage, the eyes being covered by the dressings. The patient continues to drink a large quantity of milk. Urine passed partly voluntarily and partly involuntarily.

Hypodermics of Magendie's solution, ♏ iij at 7.15 P. M.; ♏ iij at 10.35 P. M.

A. M., temperature 100°, pulse 86, respiration 15; P. M., temperature 100·4°, pulse 120, respiration 22.

30th.—The patient was very restless during the night. The paralysis remains the same as when last noted. He is more intelligent. Urine passed voluntarily.

Hypodermics of Magendie's solution, ♏ iij at 3 A. M.; ♏ iij at 10 P. M. Fæcal evacuation by enema.

A. M., temperature 100°, pulse 100, respiration 14; P. M., temperature 101·2°, pulse 104, respiration 18.

31st.—The patient seems to understand all that is said to him, and answers in short sentences intelligently.

At 4.30 P. M. the wounds were dressed under irrigation with a bichloride-of-mercury solution, one part of the salt to fifteen hundred of water. A composite drain, to replace the rubber drainage-tube, was made of two loops of medium-sized catgut and five loops of horse-hair, all of which had been rendered aseptic. This combined drain of four strands of catgut and ten of horse-hair was tied by a loop of catgut to the end of the drainage-tube projecting from the anterior wound. As a precautionary measure, in case mishap should befall the drain in trying to draw it into position, a single horse-hair was threaded by means of a needle transversely through the walls of the projecting end of the drainage-tube, next to the skin. With careful traction upon the end of the drainage-tube projecting from the posterior wound, the tube was started, and as it was withdrawn the combined drain following it was lodged in its place in the wound. Some brownish-red serous discharge came with the tube upon its withdrawal. With scissors the wall of the tube was cut down to the hair threaded through its substance, and the hair released without severing it. A long piece of catgut, to serve as a retaining string, was tied to each of the projecting ends of the combined drain. At both wounds the brain was commencing to protrude. The usual dressings were reapplied. The patient complained of some pain in the head after the dressing had been completed, but the pain was not severe enough to call for a dose of morphine. Patient had a fæcal movement.

A. M., temperature 99·6°, pulse 98, respiration 15; P. M., temperature 100°, pulse 83, respiration 17.

Some flakes of brain-matter adhered to the surface of the drainage-tube. These, upon examination by Professor William H. Welch, were found to be composed of neuroglia, nerve-fibers, and small round cells. As the latter were more abundant than in normal brain-tissue, Dr. Welch inferred that some inflammation was present.

In constructing the composite drain, I desired to insure the sound healing of the wound through the brain by filling it with a drain whose bulk would gradually diminish. I designed, after the catgut was absorbed, to withdraw the horse-hairs at intervals till only a single loop was left as a guide along which to explore, in case a complication should arise along the wound. It will be seen that with reason I varied from this intended procedure.

February 1st.—The patient is able to move his whole right lower limb. His arm remains paralyzed. The dressings have slipped back, uncovering his eyes. His left pupil is slightly dilated. The fault in the dressings is remedied by the application of supplementary pieces of combined dressing. Urine drawn by catheter.

Hypodermics of Magendie's solution, ♏iij at 1 A. M.; ♏iij at 11 P. M.

A. M., temperature 100°, pulse 88, respiration 15; P. M., temperature 99·8°, pulse 81, respiration 16.

2d.—The patient is in about the same condition as yesterday. Since his admission into the hospital he has grown very thin.

At 4 P. M. the dressings were removed under irrigation. The artery-clamp is lying imbedded in the growing anterior hernia cerebri. The granulations are very gently pushed from the clamp with a grooved director till it is seen lying free upon the brain, and then it is picked off with forceps without the loss of a drop of blood. The usual dressings are reapplied. Urine was drawn by catheter. Fæcal evacuation by enema.

Hypodermic of Magendie's solution, ♏iij at 10 P. M.

A. M., temperature 100·4°, pulse 74, respiration 16; P. M., temperature 98·8°, pulse 80, respiration 20.

3d.—The patient's general condition is the same as yesterday. Urine by catheter.

Hypodermic of Magendie's solution, ♏iij at 11 P. M.

A. M., temperature 99°, pulse 80, respiration 16; P. M., temperature 98·6°, pulse 76, respiration 22.

4th.—The patient complains of some pain in the frontal region. He passed a restless night, due to pain in the bladder. His tongue is coated. His pulse is full and irregular. The paralysis of the arm continues. His urine, drawn by catheter, is strongly alkaline, and contains pus and mucus. The pain in the bladder annoys the patient. He was ordered a powder of bicarbonate of sodium, gr. v, calomel, gr. x, at 8 P. M.

Hypodermic of Magendie's solution, ♏iij at 4.30 A. M.

A. M., temperature 98·6°, pulse 90, respiration 17; P. M., temperature 98·8°, pulse 72, respiration 18.

5th.—The patient can move the thumb and index-finger of his right hand, and also the other fingers, very slightly. He complains of some pain in the frontal region. The left pupil is somewhat dilated. The cystitis is troublesome. The urine is passed voluntarily. He had a fæcal evacuation at 3·30 A. M.

Hypodermic of Magendie's solution, ♏iij at 11 P. M.

A. M., temperature 98·6°, pulse 74, respiration 17; P. M., temperature 98·2°, pulse 70, respiration 24.

6th.—The patient's condition is about the same as yesterday. In addition to his usual diet of milk, rice, and oatmeal, he eats chop or steak. Urine is passed voluntarily. No hypodermic of morphine.

A. M., temperature 98·5°, pulse 76, respiration 16; P. M., temperature 98·2°, pulse 78, respiration 17.

7th.—The patient's general condition is good. The paralysis remains about the same. His tongue is cleaner. He has no headache. Both pupils are dilated, the left one more than the right. There is a slight convergent squint.

At 4 P. M. the dressings were removed under irrigation. There was very little discharge upon the dressings. The anterior wound is covered with healthy granulations. A pellicle of epithelium is beginning to form at the margins of the wound. The strands of catgut are apparently absorbed; the ends that were projecting are lying free upon the scalp. Four strands of horse-hair are slowly withdrawn by traction upon the ends projecting from the posterior wound. The wounds are redressed in the usual manner. The urine is passed voluntarily, with considerable pain, about every five hours. Fæcal evacuations by enema.

A. M., temperature 98°, pulse 80, respiration 20; P. M., temperature 99°, pulse 88, respiration 20.

8th.—The patient is not so bright as yesterday. His memory is poorer. His pupils are rather widely dilated, the left one more than the right. He suffers a great deal from his cystitis. His urine is in part passed voluntarily and in part is withdrawn by catheter. As a diluent drink he is ordered an infusion of hops.

A. M., temperature 99·8°, pulse 80, respiration 20; P. M., temperature 99·5°, pulse 96, respiration 18.

It was now evident to me that the withdrawal of the four horse-hairs had produced considerable cerebral irritation, and that the presence of the remaining hairs was exciting further disturbance. I therefore determined to abandon any remote advantage that the retention of a single hair through the brain might offer as a guide, and promote the immediate welfare of the patient by the removal of this persistent cause of irritation.

9th.—The patient is brighter than yesterday, and ate a good breakfast with relish. The movement of the fingers of the right hand is a little stronger. His pupils are widely dilated, the left one being the larger. The slight convergent squint continues.

At 3 P. M., to relieve the pain in his bladder, a hypodermic injection of ♏iij of Magendie's solution was given.

At 3.45 P. M. the wounds were dressed in the presence of my colleagues, Dr. Charles Phelps, Dr. L. A. Stimson, and Dr. F. S. Dennis. The wounds were exposed, as usual, under irrigation. One of the horse-hairs was isolated by traction upon the end projecting posteriorly, its anterior end was cut close to the surface of the wound, and then the hair was slowly withdrawn. In this way five hairs were removed singly. The last three hairs were taken away together, thereby striving to diminish the risk of cutting the brain-tissue. The brain protrusions have grown, and are now fully half an inch above the surrounding surface. The wounds were dressed in the usual way.

Hypodermics of Magendie's solution were given, ♏iij at 5 P. M., ♏v at 10 P. M.

A. M., temperature 99°, pulse 80, respiration 18; P. M., temperature 99·4°, pulse 97, respiration 18.

10th.—The patient passed a very restless night, being somewhat delirious. His general condition is worse than yesterday. He has lost his appetite. The urine is passed in part voluntarily, and in part is drawn by catheter.

Hypodermics of Magendie's solution, ♏iv at 1 A. M.; ♏iv at 11 P. M.

A. M., temperature 102°, pulse 90, respiration 16; P. M., temperature 100°, pulse 74, respiration 19.

11th.—The patient was restless and somewhat delirious during the night. He complains of pain in the frontal region and also in the hypogastrium. The cystitis is quite troublesome. The convergent squint is very slight, and the difference in the size of the pupils is scarcely perceptible. He can not move the fingers of his right hand so well as he could a few days ago.

At 3.45 P. M. the dressings were removed. There was some serous discharge from the anterior wound. The herniæ cerebri were dressed in the following manner: The wounds and surrounding surface were first washed with the bichloride solution, 1 part to 2,000. The herniæ were then covered with a protective of a film of collodion made by painting flexible collodion upon glass to a thickness of six layers. Over the collodion protective were applied pads of borated cotton about four inches square and three quarters of an inch thick.*

Into the deepest pad, especially at its edges, was dusted some iodoform. These pads were so arranged that no pressure should be exerted upon the herniæ. In the deepest pad a hole was cut to receive the brain protrusion. The next pad had several cuts made in it, radiating for a short distance from the center. This, in turn, was covered with a whole pad, and the completed dressing held in place by an elastic flannel bandage. The patient passed his urine in part voluntarily, and it was in part drawn by catheter; he passed with great pain a clot of mucus from the bladder.

Hypodermic of Magendie's solution, ♏iv at 3.30 A. M.

A. M., temperature 100·2°, pulse 78, respiration 17; P. M., temperature 98·6°, pulse 84, respiration 19.

12th.—The patient's general condition is better. The urine is drawn by catheter.

Hypodermics of Magendie's solution, ♏iv at 12.30 A. M; ♏iij at 11 P. M.

A. M., temperature 99°, pulse 72, respiration 14; P. M., temperature, 98·4°, pulse 69, respiration 15.

13th.—The patient slept quietly last night. His urine is in part drawn by catheter, and in part passed voluntarily with less pain than yesterday. No morphine was given.

A. M., temperature 98°, pulse 74, respiration 15; P. M., temperature 98·4°, pulse 80, respiration 18.

14th.—The patient passed a quiet night, and his general condition is improving.

At 4 P. M. his wounds were dressed. The films of collodion protective were not removed. The wounds were seen through the protective to be healthy. The wounds were redressed as described at the last dressing. Urine drawn by catheter, and partly passed voluntarily.

A. M., temperature 98°, pulse 74, respiration 18; P. M., temperature 98°, pulse 72, respiration 18.

15th.—The patient can flex and extend all of the fingers of his right hand, but can not move his wrist or arm. He does not squint, and his pupils are very nearly equal in size. Urine was in part drawn by catheter, and in part passed voluntarily without pain.

A. M., temperature 98°, pulse 74, respiration 20; P. M., temperature 98°, pulse 84, respiration 17.

16th.—At 5.45 P. M. the wounds were dressed. The anterior wound is healthy; epithelium has extended toward the center of the wound. A small flap of granulation-tissue, overlapping the edge of the wound, is cut away with scissors. The posterior hernia is somewhat smaller. The patient passes his urine without pain.

A. M., temperature 98°, pulse 74, respiration 17; P. M., temperature 97·6°, pulse 73, respiration 16.

17th.—The patient has slight pain in the region of the anterior wound. He urinates without pain.

A. M., temperature, 97·8°, pulse 80, respiration 16; P. M., temperature 98°, pulse 88, respiration 18.

18th.—The patient has slight pain in the frontal region. The paralysis of the arm continues as last noted.

A. M., temperature 98°, pulse 76, respiration 18; P. M., temperature 97·8°, pulse 65, respiration 18.

19th.—The patient is entirely free from pain. He can move the fingers of his right hand with more strength. The wounds were dressed at 11.40 A. M. The tissues at the anterior wound are flabbier. The hernia is covered with a delicate membrane, in which vessels are seen ramifying in all directions. This membrane is continuous with the epithelium growing from the edges of the wound. The pulsations are obscure, and the hernia feels as if liquid had collected just beneath its surface. The posterior hernia is the same as at the last dressing. The patient's temperature, respiration, and pulse are normal.

The temperature, pulse, and respiration were observed and recorded by his efficient nurse, Miss Mary L. Wadley, for a further period of three months. During that time the temperature ranged between 97° and 99·4°. All temperatures were taken in the axilla. The pulse ranged between 62 and 112. It was affected by the most trivial causes; simply turning in bed would at times raise the number of beats from 80 to 120.

20th.—The patient does not remember recent events well. Shortly afterward, he can not remember what he ate for breakfast.

21st.—At 3 P. M. the wounds were dressed. The delicate membrane covering the anterior hernia that was present at last dressing has disappeared. The surfaces of both herniæ are granulating and secreting pus.

25th.—The patient can move his hand at the wrist joint for the first time. The wounds were dressed. The anterior hernia is growing smaller, and is pulsating strongly again. The surface of the posterior hernia is secreting very little pus, and is rapidly cicatrizing. The pads of borated cotton covering the herniæ are now fastened in position by strips of rubber plaster, which converge above and behind the ears. The whole dressing, as usual, is covered with the flannel bandage.

26th.—The patient can flex his forearm at the elbow joint.

27th.—The patient can bring his right hand to within two inches of his mouth.

28th.—The patient can carry his right hand to his mouth. The wounds were dressed. The ends of the strips of rubber plaster adherent to the skin were not removed, only the portions over the pads of cotton being cut away. The rubber straps were reapplied over those portions left sticking to the skin. The anterior hernia is about one inch above the level of the surrounding surface of the skin; the posterior hernia protrudes about half an inch.

At this and subsequent dressings slight pressure was made upon the herniæ.

29th.—The patient can move his arm three inches from his side, and can flex and extend his forearm.

March 1st.—The patient can move his arm six inches from his side. He has all the normal movements of the forearm.

The anterior wound was dressed. A double ligature was threaded through the base of a flap of granulations overhanging an angle of the wound and the tissue tied off. The pad of borated cotton about three quarters of an inch thick, applied next to the hernia, was simply nicked radially from the center instead of having a hole cut in it as heretofore. It was in turn covered by other pads which were whole. By means of this arrangement and the straps of rubber plaster and flannel bandage, a gentle and even pressure was made upon the hernia. The posterior hernia was not dressed.

2d.—The patient has had no pain or cerebral symptoms whatever in consequence of the pressure upon the hernia.

3d.—The patient has more motion in the right arm. The wounds were dressed. The anterior hernia has noticeably diminished in size. It now protrudes only about three quarters of an inch above the surrounding surface. The posterior hernia protrudes only half an inch, and has cicatrized with the exception of one quarter of a square inch at its summit. In reapplying the dressing, as much pressure was exerted as the patient could stand without discomfort.

5th.—The anterior wound is dressed. The hernia is growing smaller. Cicatrization is progressing.

8th.—The paralysis has almost wholly disappeared from the arm. The patient's mental condition has so far improved that he can remember the name of his attending doctor.

9th.—The wounds were dressed. The anterior hernia has shrunk and flattened considerably. A process of epithelium has grown across the lower half of the hernia. Before compression was exerted, the collodion film of protective had to be plaited in folds at the base of the hernia; now it lies smoothly, without a wrinkle, over the hernia. The posterior hernia has nearly cicatrized over.

10th.—The patient sits up in bed at his pleasure.

14th.—The patient has no pain, and begs to be allowed to get out of bed. His appetite is good. The arm that was paralyzed is nearly as strong as its fellow, as tested by the grasp of his hand. His memory has improved very much.

15th.—The patient sat up out of bed for twenty-five minutes.

17th.—The wounds were dressed, and the herniæ found to be on a level with the surrounding surface of the scalp.

18th.—The patient sat up for an hour.

19th.—The patient walked across the ward, and declares he feels all right.

21st.—The patient thinks his memory is not quite as good as it was before he was injured. He is out of bed two hours in the forenoon and two hours in the afternoon.

25th.—The patient sits up, and is about the ward almost all day. The wounds were dressed. The anterior hernia is almost wholly cicatrized, and pulsates visibly. The posterior hernia is entirely covered with a cicatrix. It does not visibly pulsate, but the pulsations can be felt. The usual dressings were applied.

27th.—The patient enjoyed playing a game of dominos today.

31st.—The wounds were dressed. The tissues at the openings in the skull are slightly depressed below the level of the surrounding scalp. Cicatrization of the anterior wound is rapidly becoming complete. The patient walks about the hospital grounds on pleasant days.

April 15th.—The anterior wound is completely cicatrized. Since the last note the patient has steadily gained in strength and flesh. His memory, so far as he can judge, is as good as it ever was.

In treating the herniæ cerebri it was my aim to deal gently with them, at the same time keeping the wounds aseptic. In the period of their formation no pressure was made upon the brain protrusions. I looked upon their production as in part due to swelling of the cerebral tissue as a result of its injury, and based my non-interference upon the intolerance to pressure of acutely swollen or inflamed wounded tissues. From this point of view the openings, of considerable size, in the skull were a benefit in the treatment of the deep brain injury in its early stage rather than a disadvantage. In a later stage, however, when the brain protrusions had reached their greatest size and the course of the wounds had become chronic, I thought it advisable to aid the recession of the herniæ by gentle and evenly applied pressure.

On May 22, 1884, I exhibited Knorr at Bellevue Hospital to a number of physicians. He was then, so far as could be judged, in perfect health. Apart from the scars upon the patient, the only abnormality discoverable was a limitation of the visual field for green and red observed by Dr. W. F. Mittendorf. Inasmuch as this feature was common to both eyes, it is questionable whether it was caused by the injury.

The engraving, Fig. 4, is from a photograph of the patient taken at that time. The light line marks the position of the fissure of Rolando. The bullet entered at the center of the forehead, an inch and a quarter above the upper level of the eyebrows; it passed in a straight line through the brain from *a* to *b*, and was deflected to *c*, where it lodged. Its place of lodgment was an inch and a half to the left of the posterior median line. The course of the ball is shown by the dotted line. The probe having been passed from *a* to *b*, that portion of the wound was eliminated in the further search for the bullet. The probe was then passed from *b* to *c*, after the same method as described for the exploration of a tortuous wound. The bullet could have been followed about three inches farther upon its deflected course till arrested by the tentorium, the end of the probe being exposed by a second counter-opening in the skull.

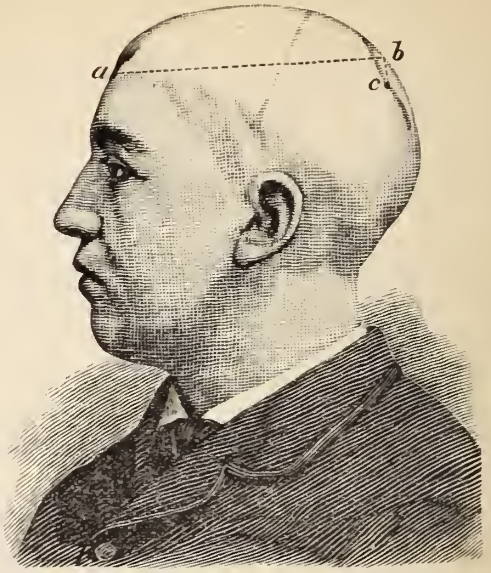

Fig. 4.

The bullet cut open the superior longitudinal sinus and penetrated the brain in the first frontal convolution, just at the edge of the hemisphere, where the convex surface joins the inner surface; traversing the brain-substance of the hemisphere, it emerged and lodged in the superior parietal convolution. The distance between the two openings in the brain, in a straight line, was six inches and a quarter.

In order to locate the injured cerebral artery with reference to the course of the ball, I carefully marked upon a cadaver the points of entrance and emergence of the bullet. I then removed a section of the skull to enable me to pass a straight-edged, long knife through the brain, in a straight line between these points. Upon removal of the brain, it was found that the cut in the first frontal convolution was down to a large branch of the anterior cerebral artery, lying about half an inch from the surface of the brain.

The patient left the hospital, where he had for a long time been retained simply for observation, on June 30, 1884.

About the 1st of August the patient went back to work at his old employment in a butcher's shop. He remained at work during the exceptionally hot weather in the early part of September.

On September 12th, between twelve and one o'clock in the morning, Knorr received a heavy blow in the anterior scar from the elbow of the man with whom he was sleeping. Knorr states that he suffered intense pain in the head for half an hour, when it died away, and he fell asleep again. He awoke at about four o'clock and noticed, with wonder, his right forearm beginning to flex upon the arm. He tried to hold it down with his left hand, but failed. Then his right leg was drawn up. Then his left upper and lower extremities, respectively, became affected in the same manner. He remembered being asked what was the matter, and that he could not speak, but screamed, and then lost consciousness. The convulsive movements were so energetic that the patient was thrown from his bed upon the floor.

The same day he went to work, but did not feel well. The physician who attended him during my absence from the city prescribed twenty grains of bromide of potassium with fifteen grains of bromide of sodium, in a wine-glass of water, every four hours. The medicine acting as a cathartic, Knorr took it rather irregularly, and for ten days prior to October 1st had abstained from its use altogether.

On October 1st, while delivering a parcel at the house of a customer, he was seized with a slight rigidity, followed by a short convulsive movement of the limbs and a momentary loss of consciousness, but did not fall. He walked away and continued to work all that day, but he "felt sick all over." He consulted me upon my arrival home that day. I immediately impressed upon him the importance of persistently continuing to take his medicine. I prescribed fifteen grains of bromide of sodium with thirty grains of bromide of potassium, to be taken, largely diluted, every morning and evening.

He soon came under the influence of the medicine, as shown by the eruption of acne, insensibility of the fauces, and diminished excitability of the genital organs.

He has continued to take the bromide in doses of twenty grains in the morning and thirty grains in the evening, and has had no recurrence of convulsions or other epileptic symptoms whatever for a period of nearly six months. When he began working after his discharge from the hospital, he noticed, in trying to keep in mind the orders for deliveries to customers, that his memory was not so good as before the injury. He now follows the same occupation, and performs the same duties in it, as before he was shot. He feels perfectly well, and, by the test mentioned above, is sure that his memory is constantly growing more retentive.

The openings in the skull are closed simply by the soft parts. The posterior scar is depressed about three eighths of an inch and pulsates to the touch. The anterior scar, which for a long time was very thin in two spots, is constantly growing firmer. It is depressed one quarter of an inch and visibly pulsates. Each scar bulges about one quarter of an inch above the surrounding surface when that portion of the head is made dependent.

The advisability of extracting from the brain a deeply lodged projectile follows, necessarily, from the case of Knorr.

In my lecture of May 22d I said that, had I found the bullet imbedded near the center of the hemisphere, it was my intention to push the ball on and to extract it through a posterior opening in the skull. In such a contingency as supposed, I advise the adoption of the following procedure:

The patient's head having been placed so that the path of the ball is perpendicular to the horizon, the probe should be passed down to the ball. Contact having been made with the bullet, the probe should be pushed on in the direction of the existing wound till it is arrested by the opposite wall of the skull. The end of the probe is then exposed by trephining and made to emerge. Two strands of disinfected silk are then tied to the end of the probe protruding from the opening of entrance. The probe is then drawn through the head, leaving the threads reaching through the wound. The probe is then reintroduced through the opening of entrance, and the exact depth of the bullet from that opening determined; but no attempt should be made to push it on, lest its relation to the existing wound through the brain be disturbed. The probe is then withdrawn. The distance of the ball from the opening of emergence is thus ascertained. A long probe or wire is so bent that its ends reach the two openings in the brain as a pair of calipers, and from the total length of the brain-wound, as shown by measurement between the ends of the probe or wire, is subtracted the already determined measurement of the depth of the ball from the opening of entrance. It is premised from the foregoing procedure that the bullet lies in the wound through the brain, or in immediate connection with it. In the effort to extract the ball there must be no groping outside of the existing path in the brain. While such action would inflict most serious injury to the brain, the increased difficulty would render the finding of the bullet, even if successful, mere chance-work. The path through the brain, and which leads directly to the ball, should be preserved by a suitable guide. This guide should not be of metal, for then it could not be distinguished from the ball in the search for the latter. A gum-elastic English catheter (No. 3 English, No. 9 French scale) upon its wire stylet should be carefully straightened to serve the purpose of a guide. A catheter of this small size, while it has sufficient bulk and rigidity, does not completely fill the wound, but leaves some room for exploration without passing outside the already established path. One of the threads at the opening of entrance is, with a needle, carried through the center of the end of the catheter and out at its eye, and tied fast. By means of the conducting thread the catheter upon its stylet is carefully lodged in the wound through the brain, its ends projecting from the skull. This having been successfully done, the reserve thread through the wound should be withdrawn. The head should now be turned so that the guide lies nearly in a horizontal plane, easy for manipulation. The instrument for extracting the bullet is a pair of long, slender-bladed, double-toothed, self-closing cervix forceps. The teeth should be short and set pointing forward and outward. The action of the forceps should have been tested with a view to avoid displacement of the bullet in an attempt to seize it. The forceps is prevented from straying from the single and correct path leading to the ball by tying it to the guide. The end of one of the blades just behind the teeth is notched on one side with a file. A delicate but strong silk thread is tied to the blade at this place, and is thus prevented from slipping; the thread is then tied in a loop a little larger than the size of the guide, the ends being cut short to the knot. The loop is passed over the guide and the closed forceps introduced alongside of, and parallel to, the guide into the wound in the brain. If the loop fails to slip upon the guide, the guide should be allowed to move with and as a part of the forceps. If the end of the guide is likely to be carried within the skull, it can be easily pushed back while the forceps is held immovable. With the lightest and most sensitive touch, search is made on one side of the guide to the known depth of the ball. Failing to find the bullet there, the forceps is withdrawn and the bullet is sought for on the other side of the guide, and then above and below. When the bullet is felt, care should be taken to make an effectual seizure. The bullet and guide should be withdrawn together.

To verify the practicability of this procedure, I implanted a small conical ball, weighing twenty-seven grains, through the forehead, three inches deep in the left hemisphere of the brain of a cadaver. The pointed end of a long, small-sized, stiff wire was screwed obliquely into the bullet. Over the wire was slid a tube whose end next to the bullet had been filed into three points of unequal length. The bullet thus mounted was thrust into the brain, and, while it was steadied against the points at the end of the tube, the wire was unscrewed and the bullet deposited. The tube and wire were withdrawn, and the head was moved about in different directions.*

All previous steps of the procedure having been successfully carried out, and it having been learned that the ball had been pushed half an inch toward the counter-opening, I introduced the forceps and explored along one side of the guide, but failed to find the ball. I withdrew the forceps and introduced it upon the opposite side of the guide, and at once detected and extracted the bullet. The bullet was removed within three minutes from the beginning of the search with the forceps. The brain was then examined and found uninjured outside of the straight and smooth path through its substance. All the steps of this procedure were carried out and the brain examined in the presence of my clinical assistant, Dr. John R. Conway, Jr., and my house surgeon at Bellevue Hospital, Dr. Willis W. French.

A fragment of bone deeply lodged in the brain could be removed by the same procedure.

Assuming that the attempt to extract the ball according to the advised method of procedure should fail, there has been established a path leading to the ball for drainage, through which a horse-hair drain or rubber tube can be passed. It may be assumed that the ball, passing along the line of least resistance, would tend toward this path, and there would remain the possibility that a second search, four or five days later, might be successful.

If a missile penetrating the brain strikes any of the bony irregularities at the base of the cranium, or if it changes its course at any point below the surface of the brain, it can not be tracked with the probe and removed by the procedure practiced in the case of Knorr.

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* This same bullet I extracted before the class from beneath the sciatic nerve, next to the femur, in a hospital patient. In that instance I detected the bullet with the probe eight days after the patient was shot, although he had been subjected to fruitless probing just after the accident.

ENCEPHALIC NOMENCLATURE.

I. CŒLIAN TERMINOLOGY: THE NAMES OF THE CAVITIES OF THE BRAIN AND MYELON.

By BURT G. WILDER, M. D.

(Concluded from page 328.)

Encephal and its compounds.—In 1881, I suggested (***9***, 125) that, for the sake of brevity, the segmental names might be written *dien.*, *mesen.*, etc., without danger of being misunderstood, and these abbreviations are employed in the Table on page 356. In 1884 (***36***) I went so far as to employ these *verba decaudata* as entire words, like *consols*, and the less well-established *dynamo*, *photo*, *stereo*, *cantab*, *wedge*, *grog*, *quad*, *undergrad*, *dyne*, etc. Since these terms were objected to in the course of the discussions on Nomenclature at the meetings last year of the American Neurological Associations and the Biological Section of the American Association for the Advancement of Science, I shall hereafter employ them only as abbreviations. With the view, however, of supplying true English forms of the Greek *encephalon* and its compounds, and rendering them more acceptable to the layman, I here propose to follow the analogy of *acephal* and of all the French forms of *encephalon*, and omit the final syllable.* This retains the entire stem of the word, but gets rid of a syllable and of two letters. The English adjective *encephalic* is even more appropriate than before. By curtailing *myelon* in like manner, we have *myel* (the stem of *myelitis*, *myelalgia*, etc.), which is now more likely to supplant the binomial *spinal cord* and the ambiguous *cord*. The almost unpronounceable adjective *myelonal* may then be replaced by *myelic*, which no one need confound with *myelinic*. Finally, following the analogy of *complex*, there seems to be no objection to shortening as well as Anglicizing *plexus* and its derivatives into *plex*, *diaplex*, *proplex*, *metaplex*, with their plurals, *diaplexes*, etc.

Arteria termatica.—In Figs. 1 and 3 is represented an apparently unnamed artery which, from its relation to the terma, may be called the *termatic*. The isthmus which unites the callosal rostrum with the fornicommissure, so as to complete the circumscription of the pseudocœle, I propose to call the *copula*.

The only other new word in this article is *protocerebrum*, a monomial and sufficiently significant equivalent for the phrases "cerebral rudiment, unpaired vesicle of the hemispheres, prosencephalon primitivum, secundäres Vorderhirnbläschen, definitive, anterior (first) encephalic vesicle," etc. The cavity of this protocerebrum represents not only the aula of the subsequently triple prosocœle, but also the procœles, or lateral ventricles. The aula is to be regarded as limited laterally by two lines from the points of constriction between the definitive first and second vesicles, extending cephalad or meso-cephalad, and thus, with the terma, inclosing a quadrangular or triangular area. The

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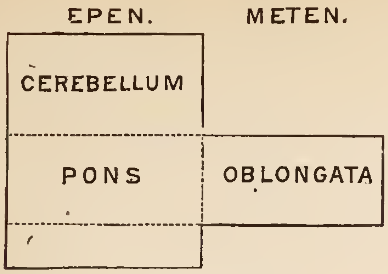
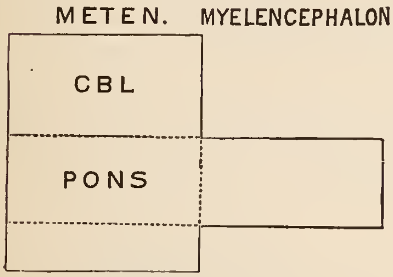
* In the "Cyclopædia of Anatomy and Physiology" (III, 650) *mesocephale* occurs at least once as if an English word.

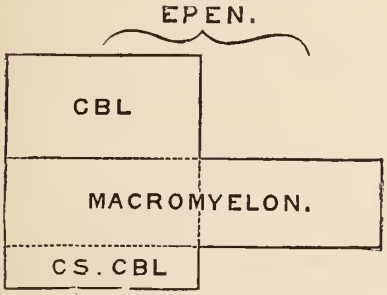
segment of a circle outside of these lines, on either side, is the rudiment of the corresponding procœle, or "lateral ventricle."



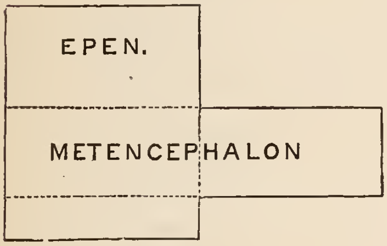
I. Quain, 1876.



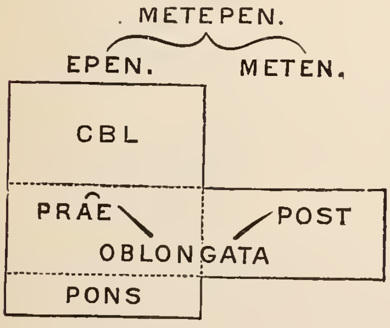
II. Huxley, 1871.



III. Owen, 1868.



IV. Horizontal Division.



V. Provisional Compromise.

Fig. 8.—Diagrams representing various interpretations and nomenclatures of the parts developed from the third (posterior) primary encephalic vesicle.

Commentary on Fig. 8.—The square outlines represent in the simplest way the four principal masses which, with man and other mammals, are developed from the third or posterior, encephalic vesicle. The cavities are not indicated. Although Quain and Huxley seem to include under *pons* the entire thickness of the floor of the cephalic part of the "fourth ventricle," yet, as there is no true pons outside the mammalia, and a "floor" nevertheless exists, its primary independence is indicated by the dotted line. Quain and Huxley, like most (Schwalbe, 396) anatomists, recognize two *vertically* separated segments, but under different names. Owen recognizes a single segment, and divides it *horizontally* into *macromyelon* and *cerebellum*, with its commissure, the *pons* (*cs. cbl.*). Some anatomists seem disposed to apply segmental names to the two horizontal divisions of the mass, as indicated in iv. In view of this diversity, the arrangement and nomenclature represented in v are suggested as furnishing a common basis of agreement. If Owen will withdraw *macromyelon* (which has not been employed by others), and if Huxley will withdraw *myelencephalon* (which had been previously applied by Owen to the entire neuron), and join with the large majority of anatomists in the use of *metencephalon* and *epencephalon*, then all can agree, at least, in designating the entire region as the *metepencephalon*, pending the determination of the questions as to whether (1) it embraces two segments or only one,* and (2), if two, whether the plane of division is horizontal, or vertical as between the others.

Commentary on the Tabular Arrangement of the Names of the Encephalic Segments (see next page).—The order of the columns is not chronological, and is determined by various considerations. In vi–x, the compounds of *encephalon*, where they occur, are abridged by the dropping of the last three syllables.

I. No originality is claimed for these terms. Aside from their terminations (which were discussed above), they are identical with those of Quain, excepting that *diencephalon* was preferred by me (***9***) to *thalamencephalon*, both because it is shorter and because the prefix is readily compounded with words giving *diacœle*, *diaplexus*,† *diatela*, *diaterma*, etc. In the similar table in Wilder and Gage's "Technology" (p. 405) the olfactory lobes were regarded (I now think incorrectly) as representing another segment.

III. These terms occur first, so far as I know, in von Baer (ii, 303–311).

IV. I do not know who first introduced these English equivalents of von Baer's names. In both cases it will be understood that the adult forebrain and afterbrain represent secondary divisions of the primitive parts, so called.

V. *Diencephalon* is given (Quain, ii, 828) as a synonym of *thalamencephalon*.

VI. Owen seems to be alone in regarding the mesen. as including the thalami (i, 277, iii, 97, 103).

VIII. I am unable to see the applicability of the Greek πρόσθεν (Spitzka, ***6***, 27) to the caudal (hinder) region of the brain.

IX. Fol's *entrencéphale* and *postencephalon* (***1***, 369) present no advantages over the terms here employed.

X. Rabl-Rückhard (***2***, 502) does not actually use the term *protencephalon primarium*, but it seems to be the legitimate correlative of *proten. secundarium*.

XI. Aside from the undesirable substitution of a metaphysical term for the anatomical one, Haeckel has caused needless confusion by transposing the commonly accepted Greek equivalent for *hinter* and *nach*.

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[*] The arguments against such division are strongly presented by Spitzka (***16***); my own paper (***39***) stated some facts and considerations in favor of the division, but did not pretend to be conclusive.

[†] Would not Rabl-Rückhard accept *diaplexus* in lieu of his recently employed polynomial, *plexus choroideus protencephali primarii?*

TABLE OF THE NAMES OF THE ENCEPHALIC SEGMENTS, WITH THEIR PRINCIPAL SYNONYMS.

I TECHNICAL ENGLISH.	II CHARACTERISTIC PARTS.	III VON BAER (1837).	IV ENGLISH VERNACULAR.	V QUAIN (1875).	VI OWEN (1868).	VII HUXLEY (1871).	VIII SPITZKA (1878).	IX FOL (1884).	X RABL-RÜCKHARD (1884).	XI HAECKEL (1878).
Prosencephal.	Cerebrum.	Vorderhirn.	Forebrain.	Prosencephalon.	Prosen.	Prosen.	Prosen. (in part).	Prosen.	Proten. sec.	Protopsyche.
Diencephal.	Thalami.	Zwischenhirn.	'Tweenbrain.	Thalamencephalon.	Mesen (in part).	Thalamen.	Prosen. (in part).	Entren.	Proten. prim.	Deutopsyche.
Mesencephal.	Optici.	Mittelhirn.	Midbrain.	Mesencephalon.	Mesen (in part).	Mesen.	Mesen.	Mesen.	Mesen.	Mesopsyche.
Epencephal.	Cerebellum.	Hinterhirn.	Hindbrain.	Epencephalon.	Epen. (in part).	Meten.	Prosthen. (in part).	Epen.	Epen. definitivum.	Metapysche.
Metencephal.	Postoblongata.	Nachhirn.	Afterbrain.	Metencephalon.	Epen. (in part).	Myelen.	Prosthen. (in part).	Posten.	Meten.	Epipsyche.

On the following Tabular Arrangement it would have been more consistent to either give the classical form of the cœlian names (*mesocœlia*, etc.), or present the English form of the other terms, *encephal*, *mesencephal*, *myel*, etc.

TABULAR ARRANGEMENT OF THE NAMES OF THE NEUROMERES AND THEIR CAVITIES.

- NEURON, myelencephalon, cerebro-spinal axis, brain, and spinal cord. **NEUROCŒLE,** myelencephalic cavity, central canal and ventricles.
  - ENCEPHALON, brain. **ENCEPHALOCŒLE, ventriculi encephalici, brain cavities.**
    - PROSENCEPHALON, cerebrum, etc., secondary fore-brain. **PROSOCŒLE, prosencephalic cavity, including aula, portæ, procœles, and rhinocœles.**
    - DIENCEPHALON, thalami, etc., 'tween-brain. **DIACŒLE, third ventricle, in part.**
    - MESENCEPHALON, lobi optici, etc., mid-brain. **MESOCŒLE, mesencephalic cavity, including iter, pylæ, and optocœles.**
    - METEPENCEPHALON, **METEPICŒLE.**
      - EPENCEPHALON, cerebellum and præoblongata, hind-brain. **EPICŒLE, fourth ventricle, in part, and cerebellar ventricle.**
      - METENCEPHALON, postoblongata, etc., after-brain. **METACŒLE, fourth ventricle, in part.**
  - MYELON, medulla spinalis, spinal cord. **MYELOCŒLE, canalis centralis, central canal.**
    - LONGER PORTION, myelon proper. **SYRINGOCŒLE, canalis centralis proper.**
    - INTUMESCENTIA LUMBALIS, **lumbar enlargement. RHOMBOCŒLE, sinus rhomboidalis.**

Note on Hippocampus.—In view of the consideration so ably presented by Spitzka (*20*), I hereby withdraw the term *hypocampa*, together with its derivatives, *hypocampæ* and *hypocampalis*.* In so doing I venture to express the hope that the word *hippocampus* may be restricted hereafter to the elevation in the medicornu commonly known as *hippocampus major*, and that the elevation in the postcornu be called *calcar* rather than *hippocampus minor*.

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* Spitzka's happy suggestion that the frequent occurrence of *hypocampe* in Vicq' d'Azyr was due to the ease with which the syllable *hipp*, hastily written, may be mistaken by a printer for *hyp*, is confirmed by my finding *hypocampus* in Bell's Anatomy (II, 432), *Gyrus hyppocampi* in Meynert's article on the Brain ("Stricker," explanation of Fig. 230), and *Gyrus hypocampi* in the American translation.

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EPILEPSY

CONSIDERED AS A CAUSE OF DEATH.

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(*Concluded from page 324.*)

Case VII.—Bridget M., Ireland, aged twenty-three, single, domestic. Admitted from work-house October 2, 1874. She has been subject to epileptic fits for three years, mostly at night.

October 3d.—Had several fits since her admission, after which she was violent, and attacked those about her. Noisy all night.

1875.—Convulsions have been more frequent of late, and alternate with attacks of mania.

May 22, 1876.—No fit in three months.

February 15, 1878.—Occasional fits in last two years. Eight fits in last thirty-one days.

1879.—Epileptic seizures becoming more frequent and severe, and, during past few months, have been followed by excessive vomiting.

October 16th.—Six violent fits within twelve hours, succeeded by great exhaustion, from which she gradually recovered and returned to her former condition.

August 6, 1881.—Several severe convulsions this morning, followed by profound coma, with feeble pulse and normal temperature, and died at 3.25 p. m. No autopsy.

Case VIII.—Ann S., Ireland, aged twenty-three, married, intemperate. Admitted from work-house April 9, 1877, with the history of her being subject to epileptic convulsions, and that she has had numerous attacks of delirium tremens. In 1871 she was prostrated from an attack of meningitis, and also had left hemiplegia, from which she recovered in a few months.

September 28th.—Succession of fits, followed by stupor, from which she slowly recovered. Has had frequent paroxysms of mania since her admission.

January 27, 1882.—Had sixteen fits during the night. Comatose this morning, with cyanosis and passive pulmonary congestion and œdema.

She died from exhaustion at 3.10 P. M., January 29th, about forty hours after beginning of attack. No autopsy.

Case IX.—Ellen H., Ireland, aged forty-five, married, intemperate. Admitted January 16, 1882, the subject of dementia. Filthy in habits and occasionally violent.

29th.—Was very much excited, and had an epileptic convulsion.

March 5th.—Succession of convulsions day and night. Comatose.

7th.—Fits have continued. Bed-sore forming over sacrum.

8th.—Died comatose at 2 P. M. Time of attack about four days. No autopsy.

Case X.—Catherine McG., United States, aged twenty-one, single. Admitted June 5, 1878. Epileptic since thirteen years of age. Now is in condition of epileptic dementia, with occasional paroxysms of violence.

1880.—Suicidal. Violent and maniacal after fits.

June 3, 1882.—Had twenty-six fits during the night, and died in *status* at 8.25 this morning. Duration of attack about nine hours. No autopsy.

Case XI.—Laura C., Germany, aged thirty, married, intemperate. Admitted from penitentiary January 24, 1882. Has occasional maniacal attacks. Her brother was insane. She had an epileptic convulsion to-day while being examined.

30th.—Five fits since her admission.

March 31st.—Fits have been more frequent at menstrual period. Twenty-five fits in last twenty-four hours. This A. M., pulse 84, respirations 24, temperature 103° F. She is semicomatose.

April 1st.—At 10 A. M. pulse 100, temperature 101° F. Pupils contracted to the size of a pin-head. In the evening the pupils became dilated, and temperature was 101° F.

2d.—This morning she notices those about her, but does not speak. Pupils react well. Pulse 104, temperature 101° F. At 10.30 P. M. temperature had increased to 102° F., and she was quite noisy during the night.

3d.—This A. M. she is beating the air with left hand and arm, and will not answer when spoken to, although she seems to understand what is said to her. Pulse 92, temperature 100° F. She was noisy all night.

5th.—Quite noisy last night. This morning she is noisy, abusive, and violent, but speaks distinctly and without any difficulty.

6th.—To-day she has returned to her former condition.

July 29th.—Twenty-three fits last night, followed by seven this morning, making thirty fits in all. Comatose. After another succession of severe fits she died in the *epileptic state* at 11.15 P. M. No autopsy.

Case XII.—Susanna W., Germany, aged forty-six, married, emperate. Admitted March 15, 1882, suffering from melancholia due to epileptic attacks.

June 30th.—Had a severe epileptic convulsion yesterday.

July 5th.—Occasional fits at night.

October 4th.—Fifteen fits last night and eight this morning. Comatose.

5th.—Fits continue. One hundred and forty since yesterday morning. Pulse 115 and feeble. No note of temperature. Coma more profound.

6th.—Three hundred and fifteen fits in last twenty-four hours. Fits returned at 5 o'clock this morning, having ceased for four hours.

7th.—Fits continued day and night—two hundred in all—and she died in a convulsion at 3.30 this A. M., after having six hundred and eighty-eight fits in seventy-five hours. No autopsy.

Case XIII.—Ellen M., United States, aged fifteen, single, temperate. Admitted April 20, 1877, from City Prison. Patient has been an epileptic since childhood. Is now suffering from epileptic dementia, and has just had a severe fit.

August 14th.—Eighteen fits since her admission. Had a succession of fits to-day.

October 15th.—Eight fits since last note. Succession of fits to-day.

March 19, 1880.—During the last two years she has been subject to frequent convulsions. Within the last ten days she has had from five to nine fits every twenty-four hours. Is now menstruating. To-day she experienced ten successive convulsions, which were very violent, producing cyanosis and cerebral and pulmonary congestion. In profound coma, with rapid and feeble pulse and elevated temperature. She was rapidly relieved by venesection, in conjunction with ice-cap to head and chloral *per anum.* She gradually recovered from this attack, and returned to her former condition.

May.—Succession of fits, followed by exhaustion.

January 13, 1883.—Thirty fits in last twenty-four hours. Comatose. Died at 3 P. M.

16th.—Duration of attack, three days and fifteen hours.

Autopsy, forty-six hours after death.—Brain and meninges intensely congested. Commencing meningitis on convexity. Pulmonary œdema with passive congestion.

Case XIV.—Kate B., U. S., aged thirty-two, single, temperate. Admitted April 30, 1881. Has been epileptic since she was ten years of age.

May 5th.—Convulsions frequent and severe, and preceded by maniacal excitement. After the seizures she becomes quite stupid.

September 12th.—Fits increasing in frequency.

April 5, 1883.—During the last few days the fits have followed one another in rapid succession. She is suffering from exhaustion to-day.

7th.—While she seemed to be getting stronger, she died suddenly at 9.30 P. M. No autopsy.

Case XV.—Margaret B., Ireland, aged twenty-four, single, domestic. Admitted June 8, 1878. Transferred from Asylum for Insane Emigrants, with the statement that epilepsy is the exciting cause of her insanity. She has five or six fits a week, accompanied by maniacal attacks in which she becomes violent. She is incoherent in conversation, and has depressing delusions.

January, 1882.—Mental condition the same as when admitted; fits occur more frequently. At intervals she is noisy day and night.

April 12, 1883.—Had a great number of fits in last two days, attended with maniacal excitement in which she has been very violent.

18th.—Since last note she has had repeated convulsive attacks, and to-day a great accession of fits took place in which she became comatose, and, with elevated temperature, died in *status* at 10.30 A. M., nearly six days after onset of attack.

Autopsy, twenty-two hours after death.—Calvaria normal. Pachymeningitis hæmorrhagica over left hemisphere, covering the third temporal convolution. Brain-substance intensely congested. Abdominal and thoracic viscera congested and œdematous.

Case XVI.—Clara V., Germany, aged twenty-three, married. Admitted July 1, 1879. Patient has been an epileptic for years. Her mental state is that of epileptic dementia, with occasional outbreaks of violence.

1881.—Fits occur mostly at menstrual periods, when she becomes very violent. These attacks generally last for three or four days.

May 3, 1883.—Succession of fits followed by stupor, from which she recovered.

July 19th.—Fits have been more frequent since last note. She had a succession of very severe convulsions this morning, followed by stupor, from which she slowly emerged, and on the 24th a similar attack was repeated, and followed by *status*.

She died in profound coma at 5.30 A. M., about six hours after beginning of attack. No autopsy.

Case XVII.—Ellen W., Ireland, aged twenty-seven, single, intemperate; prostitute. Admitted December 9, 1882, from Bellevue Hospital, with certificates stating that "patient has syphilis; is incoherent and rambling in her ideas, etc."

December 10th.—Has delusions of being drugged, and thinks that she is obnoxious to everybody. Syphilitic eruption over surface of body, and ulceration on the posterior vaginal wall, with a profuse leucorrhœa.

17th.—In poor physical condition. Still has delusions of a melancholy nature. She refuses food, and has to be fed by force.

March 15, 1883.—Physically improved. Quarrelsome, excitable, and obstinate, and refuses to leave her bed.

April 30th.—Six epileptic fits in two hours, followed by stupor, from which she emerged in a few hours.

May 7th.—Filthy in habits. Soils her bed at night.

27th.—Had four fits yesterday.

28th.—Excited and violent, attacking others without cause.

September 23d.—Occasional fits since last note. She had two severe convulsions this morning, and remained very stupid for an hour, and then became very much excited, violent, and abusive. After continuing in this state for two hours, she was again attacked by an unusually violent convulsive paroxysm, fit succeeding fit, and numbering sixteen in all. By this time she was in profound coma, and remained in this condition until the time of her death, which took place at 1.30 P. M., September 24th, about fifteen hours after onset of attack.

Autopsy, twenty-two hours after death, revealed congestion of brain-substance and meninges, but brain was otherwise apparently normal. Gummatous deposits found in lungs and kidneys.

Case XVIII.—Eliza G., U. S., aged sixteen, single, temperate. Admitted April 11, 1878. Has been an epileptic for nine years. Now has hallucinations of hearing. Frequent maniacal attacks and an epileptic convulsion almost every night.

1880.—No improvement since her admission.

November 10, 1883.—Of late, fits have been increasing in frequency and severity. She had ten fits last night, and is quite stupid this morning.

11th.—Twenty-two fits in two hours; comatose.

15th.—Since last note she gradually emerged from the coma. Bed-sore forming over nates. Very much exhausted. Sleeps most of the time, but seems to be getting stronger.

20th.—She died from exhaustion at 6.55 A. M., nine days and seven hours after beginning of attack. No autopsy.

Case XIX.—Sarah B., U. S., aged sixteen, single, temperate. Admitted November 4, 1876. She has been subject to epileptic fits since she was six years of age. The attacks were quite frequent at first. Sometimes she would have three fits daily. After menses appeared (at the age of thirteen years) a remission took place, and no fits occurred for two years. Since then she has had one or more convulsions daily, followed by maniacal excitement, in which she becomes violent and almost unmanageable. Memory and intelligence very much impaired.

1877.—No change since admission, her condition being well described in her history soon after being admitted to the asylum

February 28th.—Attempted to drown herself in the bath-tub. Has frequent fits.

March 25th.—Maniacal; screaming and running about the ward in a reckless manner.

July 3d.—Series of fits during the night. This morning she is quite stupid.

28th.—Had another series of fits, followed by stupor, from which she gradually emerged.

February 15, 1878.—Five fits in last thirty-one days.

May 17th.—Convulsions occur mostly at night, and are very severe.

November 4, 1881.—Had fourteen fits last night. In stupor this morning, and in an exhausted state.

October 5, 1883.—Frequently maniacal and violent of late. Had eight fits last night.

26th.—Eighteen fits within last twenty-four hours.

January 26, 1884.—Great accession of fits during the night, and convulsions continue this morning. She rapidly passed into the comatose state, and died in a convulsion at 6.40 A. M. Duration of attack about seven hours. No autopsy.

Case XX.—Bridget K., Ireland, aged thirty-three, married, temperate. Admitted May 10, 1872. "She has been subject to epileptic convulsions for a great many years. Has frequent maniacal paroxysms, in which she becomes violent."

1875.—Since her admission to the asylum her condition has remained the same as described in the certificates of commitment.

September 28th.—Had a succession of severe fits, followed by coma, from which she recovered in a few days.

1882.—Fits have been more frequent and more severe during the last few years.

March 24, 1884.—After a paroxysm of mania, in which she was unusually violent, she was seized with a severe convulsion, which was soon followed by others in rapid succession; and, with marked cyanosis, she became comatose, and remained in this condition until the time of her death, which occurred at 2 A. M., March 29th, nearly five days after onset of attack. No autopsy.

From an analysis of these twenty cases it will be observed that in twelve cases the patients had been the subjects of epilepsy from three to twenty-two years.

In the remaining eight the duration was unknown.

Eight of the patients had had previous attacks of "succession of fits," followed by stupor without the supervention of coma, while in six others previous attacks of *status* are noted, three of these being also subject to "successions."

The ages at time of death ranged between twenty-one and forty-six years.

In eighteen cases the duration of the fatal attack varied from six hours to four days. In one case death occurred within thirty minutes, while in another the time from the beginning of the attack till death was nine days and seven hours.

CONDITION IN WHICH DEATH OCCURRED.

In single seizure			1
In *status*	comatose,	8	16
	from exhaustion,	5	
	in convulsion,	3	
From exhaustion after succession of convulsions			3
Total			20

In cases III, V, and VI, respectively, the highest recorded temperature during the condition of *status* was

100·5°, 99°, and 99° F. In case XI, in a previous attack of *status*, the temperature was 103° F. No note of temperature was recorded in the other histories.

I will briefly recapitulate the post-mortem results in six cases, particularly in reference to the condition of the brain and meninges.

Case I.—Brain-substance œdematous and anæmic; otherwise normal.

Case II.—Meningeal injection. Brain substance intensely congested, but otherwise normal.

Case III.—Meningeal injection. Brain-substance œdematous and pale. Atrophy of left ascending frontal convolution from pressure of thickened calvaria.

Case XIII.—Brain-substance and meninges intensely congested. Commencing meningitis on convexity.

Case XV.—Brain-substance intensely congested. Pachymeningitis hæmorrhagica over left third temporal convolution.

Case XVII.—Congestion of brain-substance and meninges.

I would like to direct your attention to the great number of fits which occurred in Case XII, there having been no fewer than 688 convulsions within the seventy-five hours preceding death. In regard to the frequency of the seizures Nothnagel* says: "These groups of seizures themselves may be composed of from four to one hundred single seizures, or more, in twenty-four hours. Delasiauve saw in a boy of fifteen, within one month, a 'collective seizure' which was composed of the incredible number of 2,500 'fragmentary seizures.'"

Through the kindness of Dr. John C. Shaw, Medical Superintendent of the Kings County Asylum for the Insane, I submit the histories of the following additional cases:

Lizzie M., United States, colored, aged twenty-six. Admitted November 2, 1882. Brought from police-station. Nothing known of her. On admission, is noisy and excited, removing her clothing and exposing her person.

April 5th.—Epileptic convulsion at 9 A. M., with several following of great severity (number not noted).

8th.—Convulsions have continued at intervals ever since last entry. They are all of a severe character. Treatment by bromide has had no influence. Chloral has done no special good. Temperature to-day in axilla is 104° F., respirations 50, pulse 250.

10th.—Convulsions have continued up to her death, on this day.

Autopsy shows marked venous congestion of membranes of brain. Serous effusions into pia. Pia cloudy and thickened. Brain firm. Small cerebral vessels stand out from brain-substance when cut through. Puncta vasculosa numerous. Granulations in ventricles. Small, yellowish, gelatinous spot in right lenticular nucleus.

Mary S., aged sixty. Epileptic fifteen years.

December 15, 1878.—Epileptic fit yesterday.

16th.—Convulsion last night, and four during this day.

17th.—Had two fits last night.

18th.—No fit since yesterday. Breathing stertorous. Unconscious. Pupils normal. Pulse 98, temperature, axilla, 102° F. At 4 P. M., temperature 105°. No difference in temperature on either side. Pulse feeble and rapid. Died at 6 P. M. to-day. (This patient had had attacks of *status* previous to this one.)

Autopsy.—Glioma of right second and third frontal convolutions found in this case.

Nellie M., aged eighteen. Epileptic all her life.

January 30, 1884.—Series of fits, from which she recovered.

31st.—Another series of fits to-day (number not noted).

August 3d.—Had several convulsions to-day, and died in one of them.

No autopsy allowed. Patient had attacks of *status* before this one.

A very interesting history of a case of epileptic insanity is reported by Dr. Charles W. Pilgrim, of the Utica Asylum, in the "American Journal of Insanity" for April, 1884, in which the patient, a man, thirty-four years of age, who had been admitted to the asylum eight years previously, died in *status epilepticus*.

"The first positive evidence of epilepsy was observed a little over seven years after he first came under observation, and about nine years after the beginning of the insanity, when, on the morning of the 19th of July, he was seized with an epileptic convulsion while working in the field, and had fifteen seizures within the next twenty-four hours. He then passed into a comatose condition, and so remained for three days, during which time he could not even swallow fluids. From this state he gradually emerged, but he never afterward reached the mental condition which he was in before the attack. On the 14th of September he had another attack, which was similar, though less severe.

"On the 11th of October he again had another series of convulsions, which was severe. For twenty-four hours he was in *status epilepticus*, and had from a dozen to fifteen different convulsions, after which he became profoundly comatose. He lay in this condition for nearly seventy-two hours, without taking nourishment of any kind, and then gradually emerged from it, after which he was dull and stupid for several days.

"He had another similar attack on the 19th of January, and a few days after emerging from the coma he was up and around the ward as usual, although quite dull.

"On the 9th of the following April he was again similarly attacked, and died. No autopsy was made, as the friends objected."

Obersteiner* has also reported three very instructive cases of *status epilepticus* occurring in his practice, one being a girl of eight years, who recovered after nine days, the other two being fatal cases in adults, one of whom was a syphilitic subject.

In conclusion, a few remarks in regard to treatment during the *status epilepticus* may prove of interest.

We have no data in reference to the exciting cause of this condition; therefore there are no indications for treatment other than to meet the dangers as they arise. In some cases the convulsions may be controlled by the administration of large doses of chloral *per anum;* but, after the attack has fairly started, chloral seems to have very little influence, excepting to intensify the exhaustion.

Where marked cyanosis is present, I have found venesection of the greatest benefit, relieving the passive cerebral and pulmonary congestion after a few ounces of blood have been removed. At the same time the ice-cap and counter-irritation to the nucha have been used with apparent advantage.

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* Von Ziemssen's "Cyclopædia," vol. xiv, p. 249.

* "Wiener med. Woch.," 1873, 23.

The inhalation of chloroform controls the convulsions during its application, but they return with renewed vigor shortly after the inhalation is discontinued.

The use of morphine subcutaneously seems to possess some power in controlling the paroxysms, but it has to be injected in such large doses that it appears to me to have hastened the death of the patient from exhaustion.

Nitrite of amyl, in my experience, has proved ineffectual, if not injurious.

In some cases pressure over the carotid arteries seems to have checked the convulsions temporarily at their onset.

The pulmonary congestion and œdema must be treated upon general principles. Owing to the frequency of dysphagia, and occasionally the complication of severe vomiting, the nutrition and stimulation of the patient, when death from exhaustion becomes imminent, are very difficult. Our only hope then remains in the administration of nutritive and stimulating enemata.

636 Lexington Avenue.

SOMETHING ABOUT THE PREVENTION OF CHOLERA.

By A. BRADFORD FARNHAM, M. D.,

MILWAUKEE, WIS.

To discuss intelligently the prevention, the limitation of a disease, one must know its cause and method of propagation—its common carriers. My present purpose being to present a few practical suggestions, it is unnecessary to consider the relation of the comma bacillus to cholera. It is agreed that the disease is spread by a specific cause, a contagium. The intestinal dejecta are probably its chief carrier, but claims are made for the breath, blood, and vomit. Specifically poisoned water, or milk diluted with such water, are very common carriers. Testimony is somewhat various as to the length of time that the secretions continue virulent. Decomposition is nature's method of oxidizing, burning up, completely destroying, and certainly, if this process is far advanced, the specific germ can not survive. Occasionally, and here lies one difficulty in stamping out the disease, the cause may exist for an undetermined length of time in secretions attached to clothing or otherwise. There is substantial unanimity that the germ is not conveyed far through the air, but does half-arm work like the poison of typhus. The cholera germ or poison demands, as essentials to its existence, an elevated temperature, moisture, and the presence of decaying vegetable matter. All these conditions are present in the delta of the Ganges, and cholera is always present there, and thence all epidemics are said to start. That irruptions into other countries are not more frequent is because the germ is short-lived and not easily transported, or, when carried, does not find congenial soil.

The first agent needful in our fight against cholera is a competent local board of health or health commissioner. However thorough and satisfying the precautions may be in theory, they will be futile unless carried into practice with system and intelligence. It would be well if every physician in the country should carefully consider the *personnel* of the local board, or the competency of the health officer. Let the smaller towns and hamlets which have no such officer appoint one, or let all physicians remember that they are the proper guardians of the people's health. The executive officer must be unhampered by red tape, able to act promptly, supported by a sufficient number of inspectors, and with abundant pecuniary resources. Every reader with or without military experience knows that the success of any given movement is more dependent on the character of the officer in charge than upon any other single factor.

One need not be a prophet to predict that cholera will not deal its deadliest blows in the large cities, where an appreciation of the imminence of the danger has caused a proportionate watchfulness, but, rather, in smaller places, where vigilance has slept in fancied security, based upon fresh country air and distance from city slums, and where, notwithstanding, inspection may reveal conditions most favorable to disease. While the lake cities are exposed to cholera from the direct influx of immigrants from infected districts, their great danger lies in imperfect drainage. What are many of our sluggish rivers but huge uncovered sewers, running through the hearts of cities? Filth is present, moisture almost uniformly; add heat and the cholera germ, and the pot is brewed.

The fight against cholera must be by attack upon the germ, though the indirect method, or attack upon the conditions essential to the life of the contagium, may avail much. This latter method will consist chiefly in general sanitation, and is not to be discussed here, save to call attention to the need for one precaution in cleaning a suspected locality, the non-observance of which has increased the area of many a pestilence. Disinfect all filth to be carted away before it is moved, if not finally, at least temporarily. Quarantine is not to be considered, save to say that its value is limited.

My objective point is, What shall we do in any given instance of the disease to prevent its further spread? Some years ago Fordyce Barker taught me that a ready man is one who has anticipated the occurrence of an emergency, and thoughtfully determined beforehand exactly what to do. Then, when there is need for action, there is no delay. The best thing is promptly done, and in the best way. May every health officer take time this winter to make himself a "ready" man. He may, by so doing, save himself and his community much anxiety, and prevent the loss of many lives. When all precautions have been taken there is a grim satisfaction in awaiting the final measuring of your strength against the enemy. The greater number of people must depend on the local physician for protection, and it is well for him, too, to be "ready."

What disinfectants must be used, and how? First among all stands fire. From ashes no phœnix germ can arise. Apply heat wherever possible. Prolonged boiling with or without a disinfectant will prove efficient, but a blaze is quicker. Burn up all bedding that has been used in the sick-room. That poverty may not hide the germs of disease in concealed clothing, the municipality should pay liberally for the articles destroyed. Against cholera the remedy must be as active as the disease, and human lives must not be weighed against the value of a few articles of cotton and wool. Dry heat is effective, and can be relied on when attainable promptly. In practice it is seldom convenient or possible to use it. Small outside collections of suspicious filth can be quickly made aseptic by covering with dry wood, and saturating wood and filth with kerosene or tar before igniting. If fire can not be used with safety, cover completely with bleaching powder, or saturate with a solution of bichloride, or both. The effectiveness of this salt in weak solutions makes its free use comparatively inexpensive. It can be used to wash floors and wood-work, and to sprinkle cellars, open drains, and out-door "cultures" generally. I use it in a common garden watering-pot. Half a drachm to a pail of water makes a solution of sufficient strength. Privies are best treated with bleaching powder, covering the contents completely. The wood-work should not be neglected. A pail of the bichloride solution and a mop would soon do all that was needed. Bleaching powder and this salt are not incompatible, and could be used conjointly.

The use of water from a suspected source should be forbidden, and sufficient permanganate of potassium thrown into the well or cistern in question to color the water. Better to use a concentrated solution than the undissolved crystals. The amount needed is thus more easily and accurately determined. If the only supply is suspected, let all water used be boiled and filtered through charcoal.

The dejecta and vomit of the patient should be rendered harmless by immediate disinfection with bleaching powder or solution of the bichloride. The vital principle of disinfection here is to prevent the throwing of the vomit and dejecta into sewers, privies, sinks, or at random. Rather keep them in the room in a closed earthen vessel, or any receptacle, covered or uncovered, till complete disinfection is assured. If the patient dies, let the body be wrapped in sheets wet with solution of bichloride, and buried speedily —no wakes or public funerals. The logical disposition of the remains would be cremation.

When the patient has died or been removed to a special hospital—very often impossible on account of the speedy action of the disease—we come to the final disinfection of the room and premises. Rapidity of action is needful. Do not waste time with soap and water, but flood the room or rooms with chlorine gas. This gas is best liberated by adding equal parts of either hydrochloric or sulphuric acid to chlorinated lime, diluting the acid one half before using. The amount of chlorine in chlorinated lime is variable, and the surest proof of competent disinfection is the destruction in whole or part of some bit of cloth left in the room. If sulphurous-acid gas is chosen, let the room be measured in every instance, and not less than three pounds to the thousand cubic feet be used. First, close the avenues of ventilation as completely as possible, and preferably sprinkle the floors, or fill the room with steam, as this gas acts best in a moist medium. This is not the place to discuss this mode of disinfection. Many have found it untrustworthy, and my experience with it has been unfortunate. However, Baxter and Dujardin-Beaumetz have shown that an effective use can be made of it. I hope to offer something on this subject hereafter. When there is need for disinfection against cholera, promptness is of primary importance. Act with almost as much energy as firemen show at a fire.

It is probable that cholera is spread by the intestinal discharges of those having choleraic diarrhœa during the prevalence of a pestilence. Urge the importance of disinfection in such cases.

These considerations are of more interest to physicians outside of large cities provided with efficient boards of health. It is right and proper to fear the coming of cholera next summer. If it does not come, the general health will be benefited in many ways by our precautions.

UTERINE IRRIGATION.

By J. W. LONG, M. D.,

RANDLEMAN, N. C.

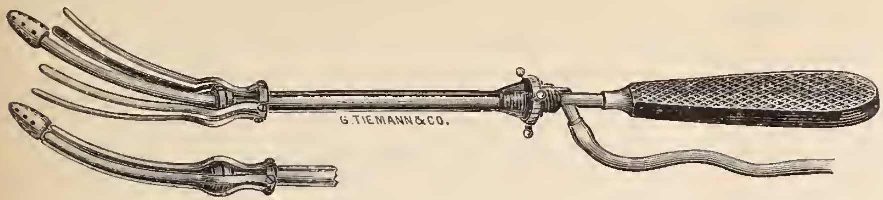
INJECTIONS into the cavity of the uterus were employed more than two thousand years ago; for we learn that Hippocrates practiced intra-uterine injections, to wash out bits of retained placenta and medicate the endometrium when affected by catarrh, 400 years B. C. Since his day the operation has always been more or less in vogue. At this time it has many friends, but more opponents. And I do not wonder that so many eminent authorities have arrayed themselves against the operation when I consider the imperfect manner in which it is usually performed. I do not say this to the discredit of those who have tried and rejected the operation, for I take it that the fault does not lie in the (intelligent) operator, but in the *means* employed. Now, the objections urged against this measure may be briefly stated as follows: Escape of the injected fluid through the Fallopian tubes, causing peritonitis; absorption of retained fluid, causing phlebitis; shock; uterine colic; and sudden entrance of air into a vein. The first of these is most apt to occur, and perhaps constitutes the chief danger, and the reason why this *ever* happens is because *the injected fluid does not find free exit at the os internum.* And I believe that a large part of all other accidents occurring with this operation—when performed under the proper circumstances—are due to the same cause.

Heretofore the profession have depended on a single-tube cannula, or a double-tube cannula. Now, both of these are defective in the highest degree, for in one there is no mode of egress, unless the os happens to be dilated, which is by no means always the case; and in the other the egress can be very little, if any, greater than the ingress. And how can retained pieces of placenta, loose morbid growths, blood-clots, shreds of mucous membrane, etc., pass out through a cannula? Much less efficient is the *uncertain* dilatation of the os.

Therefore it is *imperative* that the internal os (of course the cervical canal also) be dilated. To this end I have designed an instrument which has for its first and leading principle *dilatation of the internal os.*

The instrument, as it appears in the accompanying cut, has been manufactured by Messrs. G. Tiemann & Co., who kindly gave me many valuable suggestions. It is an elegant specimen of workmanship, made of the very best material, and beautifully finished.

It is sufficiently long and small to be used through a bivalve speculum. The handle and middle part are straight.



The part which enters the cervix is curved to suit that canal, and, when the blades are closed—as seen above—represents three sizes of the American scale—13, 14, and 15. The bulbous tip is acorn-shaped, and full of holes, with reversible current; there is no hole in the immediate end. The blades, when closed, fit snugly around the tube or cannula, and, when opened, expand equally in four directions. They are elastic and highly polished, being made of tempered steel and plated with nickel. They are controlled by the thumb-screw near the handle, and can be opened or closed at the will of the operator. The place for attaching a syringe is also near the handle.

The Operation.—The woman should be placed upon her back, with her hips brought to the edge of the bed, her legs flexed, and shoulders slightly raised. Now introduce a speculum, gently hook down the anterior lip of the external os with a tenaculum, and, after carefully ascertaining the direction of the cervical canal by means of a blunt-pointed sound, cautiously pass the instrument in until the tips of the blades pass through the os internum. Now, while the womb is steadied by the tenaculum, slowly turn the thumb-screw till the blades are half open, or fully open, as may be desired. At this point the tenaculum may be removed, and the speculum also if necessary. Of course, before the instrument is introduced it is well warmed and oiled, the fluid to be injected is prepared, and the syringe is attached. Everything is now ready for the second step in the operation. Now slowly inject the fluid, taking good care to see that the fluid returns freely into the vagina.

When the irrigation has continued long enough, simply reverse the thumb-screw and gently withdraw the instrument.

As to the kind of syringe used, the *fountain-syringe* seems best adapted to this purpose—because the force of the stream can be regulated by simply raising or lowering the syringe, and there is less danger of the fluid being thrown or forced through the Fallopian tubes.

The *elasticity* of the dilating blades is a point which may be objectionable, and I at first thought of having them perfectly stiff; but the instrument *as it is* was presented to a convention of New York physicians, and *they specially commended the elasticity of the blades*, and said that there being *four* blades was all the better, as it insured equal dilatation in four directions.

At any rate, I am willing to let it go on trial as it now stands, and, if those who try it think it would operate better with stiff blades than elastic ones, it will be a small matter to have them changed.

In conclusion, I wish to say that I offer this instrument —upon which I have spent so much time and labor—to the medical profession, and all I ask is that my professional brethren give it an impartial trial. If they find any merit in it, I am sure they will say so; if it has no such thing as merit, they will confer a favor on the humble inventor by so stating.

Note.—I notice that Professor Goodell has been washing out the womb by dilating the os with an Ellinger's dilator and passing the nozzle of a syringe between the blades of the dilator; but I did not see this till *after* I had invented the above-described instrument and it had been manufactured.

Book Notices.

The Science and Art of Surgery. A Treatise on Surgical Injuries, Diseases, and Operations. By John Eric Erichsen, F. R. S., LL. D., F. R. C. S., Surgeon Extraordinary to Her Majesty the Queen, etc. Eighth Edition, revised and edited by Marcus Beck, M. S. and M. B. Lond., F. R. C. S., Surgeon to University College Hospital, etc. With Nine Hundred and Eighty-four Engravings on Wood. Vol. I. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. 1124.

The changes in this edition are chiefly two: the author has seen the impossibility of doing justice to the diseases of the eye, and has omitted mention of them altogether; and, with the aid of the editor, Mr. Beck, he has brought the matter of surgical pathology more nearly up to date than ever before. The modern operations have also been given their share of attention. The American edition is in two volumes, of convenient size and good appearance, and the amount of matter contained in this, the first one, shows that the book has been considerably increased in size. It appears simultaneously in England, America, Spain, and Italy, and is too well known as a safe guide and familiar friend to need further comment.

A Manual for the Practice of Surgery. By Thomas Bryant, F. R. C. S., Member of the Council and Court of Examiners of the Royal College of Surgeons, etc. With Seven Hundred and Twenty-seven Illustrations. Fourth Edition, thoroughly revised. Philadelphia: Henry C. Lea's Son & Co., 1885. Pp. xx–17 to 1039, inclusive.

The American publishers of this work have thought best this time to allow Mr. Bryant to write his own surgery without any assistance. We are glad of it; not because the additions to the last edition were not good, but because they were out of place. There is little other change from the last edition. The arrrangement is identical, and but very little new matter has been added.

BOOKS AND PAMPHLETS RECEIVED.

Special Report on the Hungerford Outbreak. Toronto, February 7, 1885.

Sixteenth Annual Report of the New York Physicians' Mutual Aid Association.

Medical Department of Niagara University, Buffalo, N. Y. Announcement of the Spring Term, 1885.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MARCH 28, 1885.

THE HYGIENE OF COLLEGES.

A recent number of the "Progrès médical" contains a vigorous article on this subject, in which a dismal picture is drawn of the dangers which threaten the health of the French youth during his college career. "It is at college," says the writer, "under the influence of its detestable physical and intellectual hygiene, that many children contract the germs of disease, which break out during youth or mature age." The writer is not very clear as to the exact character of these noxious influences, since he speaks in one sentence of bad water-closets, and in the next of excessive mental strain. We heartily agree with him in his strictures upon the improper ventilation of recitation-rooms. Many an American's reminiscences of his college days are not without certain memories of low, dark chambers, which were better adapted for coal-cellars than for class-rooms, in which thirty or forty young men were obliged to inhale one another's foul exhalations for an hour at a time. And then our medical schools—God save the mark! But here we "come too near home." We can readily imagine the impression produced upon a tender parent (such as our French *confrère* describes) who should visit some of our most venerable institutions, in order to decide as to which one offered the most favorable hygienic surroundings for his hopeful son. But, jesting aside, would it not be a good plan for our medical schools—we do not criticise the collegiate institutions, for they are improving—to make a few concessions to the growing want of fresh air? With their increasing means, several lecture-rooms might be provided, so that the students would not be obliged to breathe the same stifling atmosphere for two hours or more at a time. If the tradition in favor of ill-ventilated medical schools is too strong to be easily overcome, perhaps an alternation of miseries might render them more endurable. Even a dull lecture is enlivened by an occasional breath of the outer air.

A GRACEFUL CUSTOM.

Among the many time-honored observances of the Royal College of Surgeons, of London, is the Hunterian oration, a loving tribute which is regularly offered to the memory of the great man whose name it bears. While the college feels a peculiar pride in recalling the story of his life and achievements, the theme is one that never fails to awaken the interest of the medical profession throughout the world. Mr. Marshall's oration, published in a recent number of the "British Medical Journal," is an able exposition of the career of John Hunter—of the scope and suggestiveness, if we may be allowed the expression, of his work. It shows how readily we may infer the attitude which Hunter would have assumed toward the important scientific questions of the present day, since his active mind had already foreshadowed them. It is impossible for an American to feel all the enthusiasm which the name of Hunter awakens in the English breast, and yet we can appreciate it most thoroughly. We have no Hunter, as Dr. Jacobi said, in his inaugural address before the Academy of Medicine recently, neither have we a Virchow; and yet are there no names so august upon our memorial tablets that we can not occasionally recall them with pride?

It has sometimes seemed to us that, with all our iconoclastic ideas, it would be well if we had a Westminster Abbey in which to lay the pioneers of our profession, so that we might turn aside at times from the busy rush and remember those over whose graves we heedlessly walk. It would be no unworthy imitation if we, too, were to institute an annual memorial service dedicated to those whose names are becoming every year more shadowy, and whose contributions to science will soon be forgotten by younger generations, which appropriate their ideas, scarcely recognizing the source. It was a graceful and appropriate thing in the president of the Academy to name those of former years whom he had known and revered; but how rare are these reminiscences? The faces of the honored dead look down upon us from the walls of the Academy, but how soon their deeds will be forgotten! If "conservatism" is a tender and loving remembrance of the great and good who have gone before, if it is a reverence for old associations and memories, we approve of it, whether it appears in a cold and stately English dress or in the less precise garb of our younger civilization. Shall we not, instead of decently interring the memories of our distinguished predecessors under the set phrases of a single obituary notice, keep them ever alive by a constant and truthful recital of their deeds? It were meet for the Academy of Medicine to have its "Decoration Day," nor should the occasion be devoid of deep and touching interest. Not a few of us would be benefited mentally and morally by recalling the chivalrous traits of Sims or the broad and kindly charity of Wood.

MINOR PARAGRAPHS.

PRECISION IN MEDICAL NOMENCLATURE.

The recent inaugural address delivered by Mr. Bryant on assuming the presidency of the London Clinical Society, as reported in the "British Medical Journal," is a model in several respects. Although the speaker's remarks were directed against some of the prevailing errors among medical teachers, his criticism was so judicious and so temperate that offense can not have been taken. He inveighs principally against the want of precision in the use of scientific terms, a fault which not only introduces confusion into the discussions of learned bodies, but hopelessly perplexes the student. If, he asks, medical teachers are not sure of the exact meaning of certain expressions which they use, how can they expect to make these matters clear to their pupils? Even the classical terms "repair" and "inflammation" are "inextricably mixed," so that the student too often has the idea that these processes are identical. With regard to the expression "antiseptic precautions," the most varied definitions are given, one surgeon speaking of antiseptic irrigation, and another of antiseptic dry dressings, while a third favors the spray. "Each one will apply it to his own system, and not to another, the former being in his own sight orthodox, and all others heterodox."

Upon the subject of "experimental surgery" Mr. Bryant displays a most commendable conservatism, while in his acknowledgment of the aid that the surgeon receives from the physician he shows a broad scientific spirit that does him honor. We have rarely met with an inaugural address that contained so much matter within such a limited space.

INJURIES BY DYNAMITE.

In the "British Medical Journal" for February 14th, Mr. Treves reports two cases of injury from the explosion of dynamite which are of great interest. After thoroughly analyzing the symptoms and the results of the physical examination, Mr. Treves concludes that some of the effects of these injuries are so striking as to warrant their assignment to a class by themselves. The nervous shock which follows the explosion, although somewhat similar to that of concussion resulting from a railway accident, is more general in character than the latter; as the writer aptly expresses it, the force is "diffused and finely divided." The entire nervous system seems to be suddenly overwhelmed by the violence of the explosion, as shown by the depressed action of the heart and the disturbance of the organs of sense. Such specific local effects as were observed, aside from bruising, seem to have been confined to the membrana tympani.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 24, 1885:

DISEASES.	Week ending Mar. 17.		Week ending Mar. 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	2	0	4	0
Typhoid Fever	5	1	10	6
Scarlet Fever	85	14	97	14
Cerebro-spinal meningitis	8	8	7	7
Measles	147	22	138	21
Diphtheria	80	47	51	23

The Cartwright Prize. — Essays in competition for the prize must be handed in to some member of the committee on or before the 1st of April. The committee consists of R. W. Amidon, M. D., chairman, 18 West Twenty-first Street; Robert Abbe, M. D., 32 East Twentieth Street; and Walter Mendelson, M. D., 209 West Forty-sixth Street.

The Trade in Opium and Cinchona.—In his "Review of the Drug Trade of New York" for the year 1884, Mr. D. C. Robbins remarks that the importation of opium for purposes of morphine manufacture varies but little from year to year. Last year 264,746 pounds were imported, against 229,012 the year before. One circumstance mentioned by Mr. Robbins will go toward allaying to some extent the inference that has been drawn from the large total importation for the year 1883, that the vicious consumption of the drug was alarmingly on the increase among our people, and that is, that a great quantity was hurried in in order to escape the additional duty of $4 a pound which went into effect in July of that year. The author states that South American cinchona barks are deteriorating, while those of India are improving, and he does not look very hopefully upon the scheme of offsetting this state of things by increasing the cultivation of the trees in Bolivia, for labor is too expensive and too irregular in that country.

The Death of Dr. Joseph C. Snively, of Brooklyn, took place on Sunday, the 22d inst. Dr. Snively was a graduate of the Long Island College Hospital, in the class of 1867, and a member of the Medical Society of the County of Kings and of the New York Physicians' Mutual Aid Association.

A Spanish Diploma, which merely entitled the holder to practice as a chiropodist, was lately presented by the defense, says the "Union médicale," in the case of a man who, having been found guilty of the charge of practicing medicine illegally, was fined 1,000 f. and costs.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending March 21, 1885.*

Sawtelle, H. W., Surgeon. Detailed as chairman of Board for physical examination of officer of the Revenue Marine Service. March 17, 1885.

Armstrong, S. T., Passed Assistant Surgeon. Granted leave of absence for thirty days. March 16, 1885.

Ames, R. P. M., Passed Assistant Surgeon. Detailed as recorder of Board for physical examination of officer of the Revenue Marine Service. March 17, 1885.

Society Meetings for the Coming Week:

Tuesday, *March 31st:* Boston Society of Medical Sciences (private).

Wednesday, *April 1st:* Medical Society of the County of Richmond, N. Y.; Penobscot County, Me., Medical Society (Bangor).

Thursday, *April 2d:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-Psychological Association; Washington County, Vt., Medical Society.

Friday, *April 3d:* Practitioners' Society of New York (private).

Saturday, *April 4th:* Clinical Society of the New York Post-Graduate Medical School and Hospital; Manhattan Medical and Surgical Society, New York (private); Miller's River, Mass., Medical Society.

Letters to the Editor.

POISONING WITH OIL OF TANSY.

Petersburg, Ind., *February 26, 1885.*

To the Editor of the New York Medical Journal:

Sir: I was hastily summoned, January 1st, to Mrs. L. D., who, the messenger said, "had a fit," and was dying. Hastening to the patient, I found her unconscious, with her eyes staring, her pupils dilated, her pulse weak and almost imperceptible at the wrist, her breathing stertorous, labored, and spasmodic, with bloody froth at the mouth, and having convulsions lasting about three minutes, each beginning as a tonic and ending as a clonic convulsion. All the history I could obtain at the moment was that she had gone to bed at eleven o'clock, and that at about twelve she awoke her mother, with whom she was sleeping, by the violent motions into which the convulsions threw her.

Detecting a peculiar odor, and suspecting poison, I took up the pillow on which her head rested, which was wet with saliva, froth, and what the bystanders said she had vomited just before my arrival. The strong and penetrating odor of oil of tansy was easily recognized at once, and I immediately gave the patient a hypodermic injection of a twelfth of a grain of apomorphine. In about five minutes she vomited, after which, in a short time, the breathing began to grow easier and the convulsions less violent. In about thirty minutes after she had vomited I administered *per os* thirty-five grains of chloral hydrate. The convulsions grew milder, the breathing easier, and the pulse stronger, until, at the end of an hour and a half, she was sleeping quietly. I left a mixture of chloral hydrate and bromide of potassium, with directions that it be given in doses containing fifteen grains each if any symptoms of convulsions re-appeared.

At seven o'clock the next morning I found that she had remained in a comatose condition during the remainder of the night, from which she could be roused with difficulty, but without a return of consciousness, until 6 A. M. By this time the bottle from which she had taken the poison had been found, and I discovered that she had swallowed a third of an ounce, or one hundred and sixty drops. Thinking herself pregnant, she had resorted to the drug to produce abortion. It afterward transpired that she was laboring under a mistake as to her condition. Whether it would have produced the desired effect, had she been *enceinte*, I can not say; but it is very much resorted to by women in this section of the country for that purpose. My patient had no further untoward symptoms, and in two days she was able to do her work as usual.

William H. Link, M. D.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of March 19, 1885.

The President, Dr. A. Jacobi, in the Chair.

The Treatment of Patients in the Temples of Æsculapius.—Professor Merriam, of Columbia College, by special invitation, read a paper with this title. In his introductory remarks he said he thought we were too much inclined to judge of the views of the ancients concerning the means of healing the sick from the standpoint of the medicine of the nineteenth century, which, of course, was an injustice; nevertheless it was amusing now and then to read a passage in which it appeared that it pleased the ancient deity to cure the sick in a more than usually ridiculous manner. Certain facts concerning medicine from the sixth century B. C. down to the fifth century of the Christian era, already recorded in medical literature, were mentioned, but the author dealt chiefly with new discoveries made during excavations of the temples of Æsculapius at Athens, Epidaurus, and Cos. On one of the slabs recently unearthed was a long list of diseases said to have been cured by miraculous interposition, a complete translation of which was read. This belief in miracles in the cure of disease by the ancients of the Oriental countries existed among the inhabitants of the same countries at the present day, the difference being that the virgin and the saint had been substituted for the Temple of Æsculapius. There were some unbelievers then as there were also at the present time. Three hundred and twenty temples of Æsculapius were known to have existed in antiquity.

Dr. John C. Peters referred to the studies of ancient medicine by the late Dr. John Watson, and also by himself. He thought it had been shown that Hippocrates was not given to the tricks and deceptions practiced at the temples of Æsculapius. He referred to certain evil customs existing at present in Egypt and certain parts of Asia which were similar to those existing in the ancient temples of Æsculapius.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of March 16, 1885.

The President, Dr. Charles A. Leale, in the Chair.

The Causes of Still-birth.—Dr. John Shrady read a paper in which he referred to the difficulty of arriving at the facts because of incomplete or false statistics. Among the chief of the devitalizing causes was syphilis, and, in illustration of the different ways in which the disease affected the fœtus and the benefit to be derived from treatment, the details of several cases were given. From a consideration of the cases it appeared that the mother was more likely than the father to transmit syphilis to the progeny. There were certain other disturbances of the mother's health which might act as causes—such as malarial disease, uræmic poisoning, the eruptive fevers, inflammation of the vital organs, shock, etc. Of all these, uræmia seemed most dangerous to the fœtus as well as to the mother. Among the local causes was disease of the placenta, especially so-called fatty degeneration—a term often used because it offered the readiest explanation of many phenomena, or was adopted to conceal ignorance. It was a question whether fatty degeneration of the placenta was not the product of fœtal death. A certain amount of this change in the placenta, as well as in the uterus, might be seen toward the latter weeks of pregnancy, and did not necessarily indicate disease. Tuberculosis had been alleged by some and denied by others to be a cause of still-birth. Certain changes in the funis had been considered as a cause, also blows and falls, but many women who sustained blows and falls did not abort, and it might be that, in some cases in which such accidents had been asserted to have caused abortion, the real cause proceeded from an intention to produce miscarriage. He further mentioned prolapsus of the funis. The author then dwelt at greater length upon the reported post-mortem appearances of fœtuses born dead—such as changes in the heart, pleuritic adhesions, general fatty degeneration, suppuration of the thymus gland, meconium in the air-passages and stomach, atelectasis, umbilical hernia containing the liver and most of the intestine, etc. The condition of the brain had often been interesting, serous effusion, apoplectic clots, etc., having been found. Dr. Shrady purposely avoided a discussion of abnormal presentations, malformation of the pelvis or small pelvic diameters, in the discussion of the ætiology of still-births.

Dr. E. G. Janeway had seen cases of still-birth in which there had been hæmorrhage on the surface of the brain and into the brain, malformation of the heart, and other conditions alluded to by the author. One form of degeneration of the placenta which had not been mentioned, and which had come under his observation, was the myxomatous.

Dr. T. H. Manley thought the division of abortions into two classes, according to Churchill, the habitual and the accidental, a good one. He had found malaria a cause of abortion in New York, and had mentioned two cases in which large doses of quinine administered in this disease seemed to have a tendency to bring about expulsion of the fœtus. When administered in small doses, this drug had not such an effect. Regarding injury as a cause of abortion, he thought that many women voluntarily took too great exercise for the purpose of inducing miscarriage. He also referred to certain mental states as affecting the vitality of the fœtus and causing abortion.

Dr. Wood said, with regard to the effect of malaria and quinine upon pregnancy, that some years ago the physicians of

Sacramento, Cal., gave quinine in two-grain doses seven or eight times a day, thus avoiding any tendency to miscarriage. He had seen labor-pains excited by larger doses of quinine, but on diminishing the dose, while giving the same amount of the drug in the twenty-four hours, such effects upon the uterus were avoided.

Dr. Macgregor had seen no evil effects from quinine in pregnancy, although he had given it in doses of sixteen grains. He thought the larger doses were necessary in malarial affections, as smaller doses were eliminated from the system before influencing the symptoms.

Dr. McLeod had never hesitated to use quinine during pregnancy, and his opinion of its value was becoming strengthened rather than weakened by experience.

Dr. Janeway remarked that about two thirds of labors in this city were attended by midwives, and a large percentage of still-births was due to their incompetency and failure to call a physician sufficiently early in the case.

The President referred to a case in which the obesity of the mother made it necessary to induce premature labor, and he thought this condition might sometimes so interfere with the expulsion of the child at full term as to cause still-birth.

Dr. Shrady closed the discussion.

A New and Simple Apparatus for the Determination of the Quantity of Urea in the Urine was shown by Dr. C. A. Doremus.

Peptic Perforating Ulcer of the Œsophagus.—Dr. Janeway presented specimens from the body of a child which, at the age of a year, had infantile paralysis; afterward whooping-cough, bronchitis, dysentery, pericarditis, and pleurisy on the left side. The point of interest in the case was the fact that at the autopsy a round perforating ulcer, about half an inch across, with beveled edges, was found on the left anterior wall of the œsophagus, about an inch from the stomach. It had doubtless occurred ante mortem, although some maintained that it could only occur post mortem.

A Rare Cause of Sudden Death.—Dr. Janeway also presented the lungs and trachea of a child, two years and a half of age, which died suddenly while walking with its father on the street. He was indebted for the specimen to Dr. Jenkins. A mass of glands existed behind the sternum on the right side, producing tracheal stenosis of moderate grade, and above the bifurcation of the trachea was an ulcer which had been the bed of a cheesy gland found loose in the trachea below, where it had acted as an obstruction to the entrance of air and thus caused death.

NEW YORK SURGICAL SOCIETY.

Meeting of March 10, 1885.

The President, Dr. Robert F. Weir, in the Chair.

Carcinoma of the Tongue.—Dr. Henry B. Sands presented a man to show the result of an operation performed three weeks before for carcinoma of the tongue. The patient was fifty-eight years of age, formerly a colonel in the English army, of excellent constitution, and in robust health until six years ago, when he fell, and soon afterward had symptoms of spinal trouble, supposed to be locomotor ataxia. These consisted of shooting pains in the limbs, difficulty in passing the urine, and visual disturbances. Four years ago, the patient, who had been an immoderate smoker, noticed a crack on the left side of the tongue, near the tip, which afterward developed into an ulcer. Two years ago the ulcer began to extend rapidly, and some applications were made without arresting the progress of the disease. When Dr. Sands first saw the patient about a month ago, in consultation with Dr. R. A. Cauldwell, there was well-marked cancerous ulceration of the left side of the tongue. The disease extended from a point about three quarters of an inch behind the tip of the tongue on the left side, backward, to within an inch of the epiglottis. The ulceration did not extend beyond the median line, but hardened tissue could be felt beneath the surface on the right side. There was no enlargement of the submaxillary lymphatic glands. The man's general health seemed to be good, and, as he suffered from severe pain, profuse salivation, and difficulty in articulation and mastication, he was desirous that an operation should be performed. The result was very gratifying, and showed how quickly patients sometimes recovered from an operation usually regarded as formidable. The procedure followed in this case was the one which Dr. Sands believed to be best when the disease was confined to the tongue. Both lingual arteries were tied as a preliminary step; the tongue was then seized with a volsella and removed with a pair of scissors as far back as the epiglottis. The preliminary ligatures were applied to the lingual arteries in the usual way in the digastric triangle. On the left side a branch of the lingual artery was also tied—probably the dorsalis linguæ. The effect of tying these vessels was to render the operation nearly bloodless so far as the tongue itself was concerned. There was a little bleeding from small vessels at the floor of the mouth, but all oozing was pretty well checked by pressure within a short time after the operation. Iodoform gauze (Wölfler's), containing a little resin to make it adhere, was applied to the surface of the wound in the mouth. The wounds made for ligation of the lingual arteries were sutured except where a soluble drainage-tube was inserted, and healed by first intention. The patient was nourished by enemata during the first twenty-four hours, and was afterward fed through a stomach-tube introduced three times a day for a week. The mouth was irrigated every two hours during the day with a solution of permanganate of potassium, half a drachm to the quart. The temperature at no time rose above 99° F., and at the end of a week the external wounds were firmly united, and convalescence was established. At the present time, three weeks after the operation, the wound in the mouth was almost completely healed, the remaining granulating surface not exceeding half an inch in diameter. The patient was entirely relieved of pain and salivation, was able to swallow with ease, and, notwithstanding the loss of his tongue, could be understood in conversation.

Radical Cure of a Large Congenital Omental Hernia by Extirpation.—The President presented a man, aged thirty-three, from whom in May last he had removed a mass of omentum, weighing a pound and a half, which occupied the left side of the scrotum. The tumor had existed from early infancy, and its development had given rise to but little inconvenience. Its size, however, subjected the patient to great annoyance and mortification. Several years since an epididymitis from a urethral trouble occurred. With this a considerably acute hydrocele developed, and, as it was then thought that the hernia was of the usual variety, separate from the cavity of the tunica vaginalis, the scrotum was punctured and the fluid withdrawn. The relief was marked, and no reaction followed the operation. But it was evident, during the removal of the hernial mass last spring, that the trocar had invaded the sac of a congenital hernia. At the operation, under spray, in May, the ordinary longitudinal incision was made, and the omental mass was tied off in two sections close to the internal ring. One of the ligatures partially slipping, considerable hæmorrhage was threatened, but this was obviated by a firm grasp with the forceps and another ligature. After careful dissection from the cord, the peritoneal prolongation was tied *en masse* and divided; a drainage-tube was inserted, the wound was closed, and sublimate dressings were applied. The patient was about ten days after the operation, and had no subsequent trouble whatever. As a precautionary measure, demanded by the companies in which he was insured, he for a time wore a truss. For some time, however, this had been abandoned. There was now no disposition to fresh protrusion and the parts were solidly closed. The hernial mass was the largest which the President had known to be removed in this manner.

The Descent of Femoral Hernia.—Dr. William S. Halsted then read a paper with this title. [It will be published in full hereafter.]

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of February 17, 1885.

The President, Dr. J. A. McCorkle, in the Chair;
Dr. Z. T. Emery, Secretary.

The Prevention of Opium Addiction, with special reference to the Value of Galvanism for the Relief of Neuralgic Pain, was the title of a paper read by Dr. J. B. Mattison.

In the discussion, Dr. Landon C. Gray remarked that the fact that galvanism was of extreme efficacy for the relief of pain was, as Dr. Mattison had said, well known. For all those who had been in the habit of using it the paper was of interest, because, to the mass of evidence that we already had in regard to the efficacy of the galvanic current for the relief of ordinary neuralgia, we could add the fact brought out by Dr. Mattison that it was also of value in the pain of opium habitués, and, to a certain extent, would take the place of opium for this purpose. So far as he knew, that was a new branch of the subject, and it was a source of gratification that Dr. Mattison had been able to bring forward cases to prove his proposition. The speaker was sorry that he could not say as much in regard to the directions as to the current. To speak indefinitely of "so many cells" would be equal to directing a man to go to a store and get an overcoat for the purpose of keeping out the cold, and not giving any specific directions as to the cloth, its quality, thickness, or quantity. There was just as much difference among cells as there was among cloths, and there were so many different kinds of cells used that it was impossible to speak accurately by saying that two or three or more cells were necessary, unless we specified the particular kind of cells, and he thought a larger experience would convince Dr. Mattison that he would be obliged to use a larger quantity of electricity than he had been using if he wished to relieve many cases of pain. The speaker's experience had been that when it was desired to relieve pain of a superficial nerve, a small current was necessary, whereas, if pain was seated in a deep nerve, a larger current would be required; for instance, pain in the sciatic nerve would call for a large amount of electricity to flood it. As a matter of fact, he had found that, in order to relieve the pain of sciatica, he was very apt to exhaust an ordinary battery in two or three days. Now, the great trouble encountered until recent times had been to get a battery which an ordinary practitioner could carry around with him. Gaiffe, of Paris, had made such a battery, containing chloride-of-silver cells, each little cell not larger than two fingers, and yet furnishing a constant current, and running months at a time. The difficulty with this battery, when made abroad, was that, if it was broken, it would be necessary to send it across the ocean for repairs. Within the last few weeks he had found in New York a manufacturer of a battery in which the cells were so small that thirty-two of them could be put into a very small space, so that it could be carried around with no greater trouble than an ordinary hand-bag. Each one of these cells would furnish two hours' work a day for nine months without any necessity for replenishing, and at the end of this time the cells could be again put in order for about eight dollars. That was much less than the ordinary battery would cost. Now, two hours a day for nine months was more than most physicians would use a battery. Practically, this battery would last two years, and it would always be ready to work. Such a battery as that was destined to revolutionize the use of electricity by the general practitioner, because even those who were experts had been cursed with the batteries now on the market. With such an instrument, every practitioner could avail himself of the benefits of Dr. Mattison's studies in the relief of pain.

Dr. Freeman said the subject was of very great interest, and he was glad to have it brought before the society. The views expressed in the paper coincided very nearly with his own. There was no question but that galvanism was the best remedy we had in the larger proportion of cases of neuralgia. As to the passage of electricity through the head, he had known great trouble to follow such a procedure, and he had been careful of late not to pass the current directly from one side to the other through the head. If the general practitioner used electricity more frequently, the use of opium would be very greatly diminished. There was no question but that opium was becoming a bane to civilization. With all the good it did, it was doing so much evil that he was afraid to use it. When we had such an excellent substitute, it should be used. The faradaic current was of little use in ordinary neuralgia, but the galvanic current was in many cases a specific, or very nearly one, and in a very large proportion of cases he had found it so reliable that it had been almost the only remedy employed or needed.

Dr. Mattison, in reply to Dr. Gray, admitted the rather loose phraseology involved in the expression "two cells, four cells, etc.," but, unsatisfactory as it was, it could not well be avoided. De Watteville had said: "The usual method of prescribing a current of so many cells can not, unfortunately, be altogether eliminated from practice." Regarding Dr. Freeman's remarks about galvanizing the brain, it was, if using a strong current, somewhat ticklish business. Anstie had told of a case under his care in which the current had not been applied more than a few seconds when the patient fell to the floor and remained half unconscious for some time. With care to avoid too strong a current, the speaker thought there need be no solicitude. He had used it many times, but had never noted an unpleasant result.

The Eruptive Fevers in their Relation to Cerebral Tumor, and other Diseases of the Nervous System.—Dr. J. C. Shaw read a paper with this title. (It will be published hereafter.)

Dr. Gray thought that Dr. Shaw's observations upon the causation of cerebral tumors were certainly original. He had never heard of any other investigations in the same line. He was not prepared to discuss the paper in the light of clinical experience. He certainly had not observed the connection between cerebral tumors and measles, and he thought Dr. Shaw deserved great credit for his original research.

Dr. B. F. Westbrook would like to ask Dr. Shaw how, from a pathological standpoint, the idea would commend itself to his mind that tumors consequent upon measles—supposing measles to bear a causative relation to tumors—might be of the nature of strumous or scrofulous growths. It was a well-known fact that scrofulous growths followed measles when there was a scrofulous diathesis; and he thought that in one of the cases mentioned by the author there were tubercular appearances—as the tumor was said to contain giant cells and other tubercular features—such as masses of lymphatic tissue, etc. He would like to have the author's idea as to the tenability of the theory, or whether it would be worth considering at all.

Dr. **Shaw** replied that his idea was that in some way the irritating material of these fevers caused disturbance of the tissue surrounding the blood-vessels, and that this disturbance or irritation resulted in new formations. He could readily conceive that what we called tubercular tumors might be developed in consequence of this process, because we found tumors of this kind, and they were simply characterized by proliferation of cells; immense quantities of round cells were found around the blood-vessels in these tumors. He did not, of course, think that would alter his view of the case in any way. In one of the tumors that he had kept for further examination, he thought there were cells of that character—round cells similar to those that he had found in most tubercular tumors. He did not emphasize any particular form of growth, but maintained that a growth was set up by an irritation as above described.

Dr. **Gray** called attention to the fact that Dr. Shaw had given the results of two autopsies of his own and one other. He would like to ask him, therefore, whether in his own autopsies the blood-vessels outside the area of the tumor were examined; and, if so, whether the .terminal arterioles running down from the surface of the cortex were examined, and the result. Were there any tubercular deposits on the vessels beyond the area of the tumors?

Dr. **Shaw** replied that the paper was largely suggestive, and the point to which Dr. Gray referred was not worked out. In the two cases alluded to he had not yet had an opportunity to examine the vessels at a great distance from the tumors. One of the cases did not appear to be one of true tubercle.

Dr. **Gray** said the question had arisen in his mind while Dr. Shaw was reading his paper. The first case, in which no autopsy followed, was spoken of as being one of choked disc. There was great swelling of the head. Now, it was well known that hydrocephalus might follow the exanthemata, and the question arose whether in cases of this kind there was not tubercular dropsy of the head. It was not infrequent to see children develop those semi-tuberculous dropsies in this way after an exanthem had run its course. The idea struck him that Dr. Shaw's case might be of a meningeal or tubercular nature, and perhaps all his cases were not of this nature, until his criticism was checked by the autopsies. Dr. Shaw was aware how difficult it was in children to make a differential diagnosis between brain disease and meningitis, because many of the symptoms in the two cases were the same, and, unless there was this retraction of the post-cervical muscles—as in meningitis—the diagnosis was difficult. The other symptoms were almost identical in the two diseases, so that some of the cases might be classed as meningitis.

Dr. **Shaw** said that was possible. He knew that sometimes there was great difficulty in the diagnosis of these cases, but the rather slow progress of the cases and the localized symptoms made it clear to his mind that it was a case of tumor. The first case was one of a great deal of interest, because it was one which he presented to the American Neurological Society in New York, under the head of "Ataxia in a Child." It was the subject of discussion as to what was the difficulty with the child. Dr. Miles, of Baltimore, took the ground that it was probably a tumor, and the subsequent progress of the case led Dr. Shaw to think that that opinion was undoubtedly correct. There was no tuberculosis in the family. He did not then recognize it as a tumor. He thought it was a case of sclerosis of the posterior column.

Dr. **Sherwell** thought that perhaps the author had proved too much, especially with regard to measles; but he did not see why measles should be followed any more than any other exanthem by such a tumor as had been described. When they were present it was, in his opinion, evidence of a dyscrasia or diathesis, either strumous, tubercular, or even venereal. He would like to hear the author's opinion upon this point.

Dr. **Shaw** replied that Dr. Sherwell seemed to think that the paper proved too much. He himself did not think he had proved anything. The paper was rather suggestive, as every one perhaps had noticed. It simply called attention to what appeared to him to be a factor in the ætiology of this condition. It did not follow that every child having measles must have a tumor. Dr. Sherwell maintained that these tumors were developed as the result of a dyscrasia; he (Dr. Shaw) maintained that they were due to some disturbance around the blood-vessels, and that this was an irritating disturbance. Of course, when we used the word "dyscrasia," we all knew that we did not know what we meant. No one could explain the term. It was a peculiar kind of condition. He did not think he could explain it any more than he had done. It was a fact that those who had seen tumors in children did not look out for their cause. In the past seven years he had found several cases of tumor following on measles. Tumor, he thought, might develop from any of these eruptive fevers. In almost all these cases there was a predisposition to nervous disturbance.

Dr. **Sherwell** asked why exanthematous diseases should more especially cause these tumors.

Dr. **Shaw** replied that he had emphasized the point taken because such had been his clinical experience. In conclusion, he thought the subject one really worth bringing forward. He had observed the fact for a number of years.

Reports on the Progress of Medicine.

OBSTETRICS AND GYNÆCOLOGY.

By ANDREW F. CURRIER, M. D.

Hæmorrhage from the Umbilicus.—Fürth ("Arch. f. Kinderheilk.," v, 7, 8) remarks that this accident is so rare that in a service of four years at the Vienna Foundling Hospital, during which time fifty thousand infants were seen, it was met with only thirteen times. Vogel saw it once in ten thousand cases. Baginsky has seen it twice. Ritter reports one hundred and thirty-two cases, ninety-seven being uncomplicated, and the others complicated with hæmorrhage from other organs. Weiss observed it thirty-one times in one year, among seven hundred and forty-two infants at the Foundling Hospital in Prague. Grandidier has collected two hundred and two cases from all sources. Little can be said in regard to the causes of this accident. Some authors have suggested deficiency of fibrin in the blood, and others insecure ligation of the cord. Buhl affirms that the occurrence may accompany fatty degeneration. Other causes which have been mentioned are jaundice, hæmophilia, scorbutus, scrofula, syphilis, tuberculosis, and hydræmia, some of which may be peculiar to the mother. The blood exudes in drops from the end of the navel-stump, and it is difficult to determine the exact source whence it comes. Coughing or crying increases the flow, which is also more abundant in the early part of the morning. Colic, diarrhœa, cough, or other common disturbances may be associated with the bleeding. Most of the recorded cases have occurred between the fifth and tenth days from birth, and most of them have ended fatally. The bleeding may last an hour or two, or it may continue for days or weeks. As to treatment, if anything remains which should be ligated, ligation is, of course, the plan to be followed; otherwise pressure, the actual cautery, and various fluid hæmostatics may be used.

The Hygiene of the Mouth in the New-born.—Epstein (*Ibid.*) says that certain affections of the mouth which are peculiar to the earliest period of life can in most cases be avoided with proper care. They are simple erythema, catarrhal stomatitis, circumscribed necrosis of the edges of the palate, similar changes at other points in the oral mucous membrane, and thrush. In all of these diseases there is a catarrh of the mucous membrane, and they may be considered, in general, as stomatitis. The catarrh may be caused by the irritating action of air, food, the act of swallowing, etc., upon a very sensitive surface. It may be simply a local phenomenon, a symptom of an affection which involves the entire intestinal tract, or an accompaniment of a general disease. With it may be associated a softening and destruction of the epithelium upon the postero-lateral portions of the hard palate, and this may develop into infiltration and necrosis of the mucous membrane throughout its entire thickness, in larger or smaller *aphthous* patches. Less frequently, the other portions of the hard palate, the soft palate, and the central portion of the dorsal surface of the tongue are affected. The disease may be without bad result, or it may lead to serious trouble of the entire organism. Pain, and interference with sucking, quickly tell upon a new-born infant, and there may result dyspepsia, gastro-enteritis, inflammation of the salivary glands and their ducts, nasal catarrh of a muco-purulent character, purulent inflammation of the middle ear, bronchitis, or lobular pneumonia. Locally, there may be ulceration or gangrene of the mucous membrane at various points, and this may be complicated by the formation of abscesses in the alveolar borders or on the floor of the mouth, deep ulcerations in the frænum of the tongue, purulent glossitis, retro-pharyngeal abscesses, and erysipelas. One of the most frequent causes of stomatitis is the mechanical irritation caused by habitual washing of a child's mouth, after each nursing, to remove the milk which has adhered to the mucous membrane. The epithelium is thus rubbed away from the mucous membrane, and hæmorrhage is excited in some cases. The true treatment of children with reference to troubles of this character is the prophylactic—abstaining from interference with the mouth until there is very good cause for attention. The success of this non-interfering plan was amply proved by the author in the Foundling Hospital at Prague in which those infants which were brought in from Breisky's clinic suffered scarcely at all from affections of the mouth, while among those which were brought in from the city at large, almost all were affected.

The Importance of Flexions and Displacements of the Uterus.—A paper by Graily Hewitt ("Lancet," June 7, 14, 21, 1884) is mainly a defence of the author's well-known views as to the very great importance of uterine displacements, and a criticism of the opposing views, especially those expressed by Vedeler, of Christiania, and Herman, of London. Vedeler's conclusion is that since the proportion of flexions and versions is nearly the same in diseased as in healthy women, the variety or change of shape and position is virtually of no particular consequence. The author meets this by stating Vedeler's distinction between a healthy and a diseased uterus, that being considered a healthy uterus in a given case in which no subjective or objective symptoms of disease are referable to it, while in case of a diseased uterus symptoms are evident which can be traced to the pelvic organs, or which point to organic changes. The absence of discoverable lesions is thought by Hewitt not to be, of necessity, an evidence of a perfectly healthy uterus, or to imply necessarily that the patient is *fanciful*, hysterical, or without any disease at all. The most important question in the consideration of this subject is concerning the "complaints" which are present in cases of uterine displacement, and their dependence upon uterine displacement. These "complaints" or symptoms, according to Hewitt's classification, are: (1) spontaneous pain; (2) pain produced by motion; (3) undue sensitiveness of the uterus to the touch; (4) leucorrhœa; (5) dysmenorrhœa; (6) menorrhagia; (7) amenorrhœa; (8) [in married women] sterility, abortions; (9) reflex phenomena, including (*a*) nausea, (*b*) hysteria, (*c*) convulsions, (*d*) cephalalgia, (*e*) melancholia; (10) bladder symptoms; (11) rectal symptoms; (12) dyspareunia. Vedeler evidently overlooked the fact of race and class distinction, the women upon whom his observations were made being of a very hardy race, and presumably of the working classes, with whom there is always less susceptibility to pain and annoyance than among those who live more luxuriously. Thus a broad generalization such as he (Vedeler) made loses sight of a vital factor. Vedeler's conclusion is further criticised by the observation that it does not follow that a given variety of uterine flexion or version will always be attended with the same symptoms; indeed, it is readily conceded that in some cases no symptoms are present. As regards the presence of symptoms in the condition of anteflexion, Bandl's investigations show that it is very often an abnormal condition, and might readily give rise to the unfavorable symptoms which have sometimes been attributed to it. Bandl observed that in cases in which the uterus was not anteflexed, and did not rest upon the bladder when the latter was empty, no complaint like those which it is believed are traceable to uterine flexion ever existed. Vedeler's table concerning the influence of flexions in producing dysmenorrhœa proves little for either side; for under the heading "all cases of flexion" it is shown that dysmenorrhœa was absent in sixty-four per cent. of a given series of cases, while it was present in seventy-six per cent. of the cases in a series half as large as the former one. In Herman's papers on the relation of dysmenorrhœa to flexions of the uterus, the ground is taken that flexion alone does not produce dysmenorrhœa. This statement is denied by Hewitt on the ground of personal experience, inasmuch as cases have been seen and treated by him for anteflexion, with emission of blood in clots or *gushes*, and severe pain, at the menstrual period; all of which symptoms have disappeared when the uterus was straightened. In some cases of anteflexion it is thought that the patients may feel better during menstruation than at other times, from the fact that the congested condition of the uterus tends, to a certain degree at least, to remedy the bending of the canal and thus permit free exit of the blood. In other cases, in which the uterine tissue is hard and unyielding, or, on the contrary, soft and flabby, it is thought that obstructive dysmenorrhœa would occur. The use of the cradle and stem pessaries is still approved by the author as proper in certain cases of anteflexion. Herman's statement that acute retroflexion may exist without any symptoms is denied, though it is not asserted by the author that *dysmenorrhœa* is necessarily present in such cases. Four propositions are enunciated by Hewitt which embody his belief with reference to the so-called mechanical system of uterine pathology, and they are as follows: 1. The uterus best performs its functions when its shape closely approximates to what has been termed the normal shape, and when it occupies its normal position in the pelvis. 2. Alterations to any material degree in the shape of the uterus are liable to give rise to complaints on the part of the patient, and may occasion severe symptoms. 3. These alterations, coupled, as they frequently are, with variations in the position of the uterus, are frequently associated with altered conditions of the tissues of the cervix or body of the uterus. 4. The symptoms of patients which present these conditions are relieved by adopting such measures as diminish the flexion and restore the uterus to its normal shape and position, and favorable tissue alterations are or may be effected by the same means.

Prolapse of the Pelvic Floor without Relative Displacement of the Uterus.—G. E. Herman ("Brit. Med. Jour.," July 12, 1884) observes that the chief difference between those who accept the "mechanical system of uterine pathology" and those who reject it consists in the fact that the former consider the bending of the uterus and correlative conditions as the most essential elements, and their rectification as the principal object in treatment, while the latter consider these conditions as, in most cases, unimportant. The object of the author's paper is to demonstrate that, though there may be yielding of the pelvic floor without any relative alteration in the position of the uterus, there can not be prolapse of that organ without some alteration in the pelvic diaphragm. The former statement is often sustained by the examination, in the lateral posture, of patients who complain vaguely of bearing-down pain, or of feeling that "the womb is coming down." Nothing abnormal is discovered at first, but when the patient makes a straining effort the perinæum is seen to bulge forward, which indicates a descent of the pelvic floor, and with it the uterus, though the mutual relations of both remain the same. To verify the statement, the author has made a large number of measurements, as well upon virgins, multiparous women, and others not presenting symptoms referable to prolapse, as upon those with whom the complaint of prolapse was made. These measurements followed the curve of the soft parts from the lower border of the symphysis pubis to the tip of the coccyx, or, when this was not appreciable, to the lowermost spine of the sacrum. The average of these measurements was four inches. The effort of straining increased this measurement by half an inch or less in the case of virgins, while with those who complained of prolapse it was sometimes increased by more than two inches. The increased measurement is especially noticeable soon after the completion of parturition, particularly if involution has not taken place to a proper degree, but this is not a morbid condition among parturient women, unless it is prolonged beyond the time in which involution should be accomplished. It is also found among multiparæ of relaxed muscular tone. The symptoms are aching, dragging sensations in the back, hypogastrium, and thighs, and the left side is usually more troublesome than the right. The unpleasant feelings disappear when the patient lies down. If lying down does not relieve them, it is evident that the source of the trouble must be sought elsewhere. The pain is increased by exertion—e. g., by walking or defecation—and constipation is often an associated condition. Leucorrhœa and irritability of the bladder may also be present, and all the symptoms are apt to be more or less exaggerated during menstruation. As to treatment, vaginal pessaries are not indicated, for in these cases there is no prolapse of the vaginal wall. Support of the perinæum alone is required, and the means suggested for the accomplishment of this purpose is simply the firm and secure application of a napkin against the perinæum.

The Treatment of Extravasations of Blood behind the Uterus.—Zweifel ("Arch. f. Gynäk.," xxiii, 3) adds this paper to the contribution which he has already made to this subject. The basis of it was the case of a patient twenty-seven years of age who suffered for eight weeks with a retro-uterine hæmatoma, as large as the gravid uterus at the seventh month. At the end of this time, as the tumor had not diminished in size, operative procedures were adopted. The vagina was first disinfected, and the deepest and softest part of the tumor was carefully marked for the incision. The vaginal mucous membrane was then cut transversely, the edges of the wound were separated, and the connective tissue between the mucous membrane and the tumor was broken up with the finger. A fistula-knife, guarded by the finger, was then thrust into the tumor, after which, with Simpson's metrotome, the wound was enlarged to three fingers' breadth. After the loose clots were turned out of the cavity, the latter was thoroughly irrigated, and then, with the finger and the dull curette, as many more clots as could be easily separated were also removed. A rubber drainage-tube with a cross-piece was next introduced, and the cavity again thoroughly washed out. No severe reaction followed this procedure. Suitable irrigation with solutions of corrosive sublimate and carbolic acid was practiced at proper intervals. On the fifth day there was severe pain in the abdomen, together with vomiting, inability to sleep, and other unfavorable symptoms. Permanent irrigation was begun and continued ten hours. Iodoform in large quantities was then introduced into the cavity, from which detritus and clots came away from time to time. From the ninth day positive improvement began, and continued until recovery was established. This method of treating hæmatomata is more successful, less dangerous, and less difficult of performance, as shown by statistics, than the method by laparotomy which has been practiced and advocated by A. Martin, Düvelius, and others. It should therefore be preferred.

Infantile Leucorrhœa.—Descroizilles ("Arch. de tocol.," Aug., 1884) remarks upon the frequency with which a mucous or muco-purulent discharge from the genital organs of female children is found, sometimes even in new-born infants. This condition obtains most frequently among children five or six years of age, and less often in the second or third year of life. It is attributable to a variety of causes—want of cleanliness, habitual contact of urine or sebaceous matter, herpes, impetigo, and eczema; in other cases masturbation, pin-worms, rape, or attempted rape; likewise the action of certain general diseases, such as enteritis, diphtheritic affections, and the strumous diathesis. Conditions of alimentation, habitation, and clothing have an important bearing upon this disease, and the author has met with the greatest number of cases in the spring and early summer. The effect of this discharge upon the system at large is usually very slight, aside from the annoyance of its presence. Sometimes, however, one finds associated with it pains in the region of the sacrum or coccyx, general pallor, weakness, capricious appetite, and weak pulse. Pruritus is usually present in the parts which are bathed by the discharge, and this is sometimes intolerable. After this discharge has existed for a long time the mucous membrane of the vulva and the lower portion of the vagina becomes thickened and softened, its surface being eroded or ulcerated, and a unilateral or bilateral adenopathy may develop. The cutaneous surface contiguous to the external genitals may also participate in the pruritus, and also be the seat of a more or less intense inflammation. With very young children (of two years or under) the phenomena of the disease are apt to be less intense than with those who are older. The intensity is apt to increase as puberty is approached. In regard to treatment, the general condition should be made as favorable as possible by the use of vegetable tonics. Strict cleanliness of the affected parts must be insisted upon, and sulphur or alkaline baths are usually efficacious. In many cases it will not be possible to give vaginal douches, which is the most thorough and effective way to treat the condition, but irrigation can be freely practiced, an astringent action being sought for. Solutions of sulphate of zinc, acetate of lead, or nitrate of silver are appropriate for this purpose, and if the discharge has an offensive odor the irrigation may be made with a solution of permanganate of potassium. If ulcerations or erosions are present, the free use of the solid nitrate of silver is recommended. Of course, any co-existing disease, such as rheumatism, herpes, helminthiasis, etc., is to be treated. In many cases it will be found to be the source of the leucorrhœa.

Miscellany.

The New York State Medical Association.—The second special meeting of the Fifth District Branch will be held in Poughkeepsie on Tuesday, May 19th. The Secretary, Dr. E. H. Squibb, of No. 36 Doughty Street, Brooklyn, requests those Fellows of the Association who desire to contribute anything in the way of a paper, notes, or remarks on any subject of interest at the meeting, to kindly notify him as soon as convenient.

The Sanitary Council of the Mississippi Valley, at its recent meeting in New Orleans, ordered the following communication to be sent to the President of the United States:

"The Sanitary Council is gratified to learn that Congress has appropriated a sum of money to be placed in the hands of the President of the United States, to be used in his discretion, in aid of State and local boards of health in the event of an actual or threatened epidemic of cholera or yellow fever, in preventing the introduction and spread of the same, and in maintaining inspections and quarantine at points of danger. Asiatic cholera threatens an incursion into the United States in the near future, and realizing—in the interests of life, health, and commercial and industrial welfare—the vast importance of such preventive measures and adequate preparation for effective quarantine before the advent of foreign pestilences, so that they shall not come upon us defenseless and unprepared, the Sanitary Council respectfully and earnestly petitions the President of the United States to immediately convene the National Board of Health, and authorize its use of so much of the epidemic contingent fund as may be necessary for preparing and promptly enforcing a vigorous system of preventive measures in co-operation with, and in aid of, State and local health organizations with especial reference to Asiatic cholera."

A Sanitary Survey of the State of Illinois, embracing a house-to-house visitation, is now being made by the State Board of Health. From the elaborate documents that have been sent us, explanatory of the details of the survey, we have no doubt that it will be thorough and productive of great good.

City and Country Practitioners.—Commenting upon a suggestion made to the directors of the different hospitals, that the assistants should be cautioned against making disparaging remarks in public concerning the professional skill of their colleagues, the "Deutsche Medizinal-Zeitung" asks, very pertinently: "But how if the gentlemen in Berlin, the professors, privy councilors, assistants, specialists, and others, deliver their magisterial opinion with reference to patients who come or are sent to them from the country, with a lofty air, saying: 'What ass prescribed that for you?' or 'You certainly fell into clumsy hands.' Ah, my country friend, that is quite another story! *O sancta collegialitas!*"

THERAPEUTICAL NOTES.

The Simaba Cedron as a Remedy for Hydrophobia.—Vaillant ("Therap. Gaz.") recommends a preparation made from the seeds of this South American tree as a remedy for hydrophobia. The active principle is a bitter crystalline substance, which dissolves in hot water to form a neutral solution. The writer professes to have cured with it two cases of hydrophobia that had already reached an advanced stage of convulsions.

Phenylhydrazine.—Hoppe-Seyler ("Ztschr. f. phys. Chem."; "Ctrlbl. f. d. ges. Therap.") has experimented with this substance and its salts, and finds that, when introduced into the stomach of rabbits, or injected beneath the skin, they cause a rapid decomposition of the red-blood corpuscles and a setting free of the coloring matter. Very small doses are fatal, their administration being followed by hæmaturia and other symptoms of profound hæmic disturbance.

Perosmic Acid in Sciatica.—Merces ("Lancet") has employed hypodermic injections of the acid in eighteen cases of sciatica, with complete success in twelve. From three to five drops of a one-per-cent. solution were injected deep in the region of the sciatic nerve, at a point midway between the tuber ischii and the trochanter major. The writer states that neither local nor general disturbance follows the injection. In some cases immediate relief was obtained after prolonged suffering.

Nitro-glycerin in Chronic Interstitial Nephritis.—Rossbach ("Berlin. klin. Woch."; "Ctrlbl. f. d. ges. Therap.") commends this remedy because of its favorable action in cases of contracted kidney attended with cardiac hypertrophy. He believes that many of the distressing symptoms of chronic interstitial nephritis are directly due to the increased blood pressure. Now, as nitro-glycerin has a direct tendency to lower this pressure, it follows that it is a most valuable drug in this disease. His method of preparation is as follows: Dissolve about a grain and two thirds of nitro-glycerin in six ounces of sulphuric ether, and then add two parts of powdered chocolate and one part of gum arabic. Allow the ether to evaporate, and add sufficient water to form a thick paste, which may be poured out into molds. Each troche will contain about a sixtieth of a grain of nitro-glycerin. The dose is from one one hundred and twentieth to one sixtieth of a grain every hour. The patient may complain of headache after the first few doses, but tolerance is soon secured.

Jaborandi in Obstinate Hiccough.—Pagenstecher ("Ctrlbl. f. d. ges. Therap."; "Bull. gén. de thérap.") reports a case of hiccough which had resisted every known remedy, including the bromides, morphine, chloroform, and electricity. The patient's diaphragm contracted in the most violent manner about twenty or thirty times a minute, and he had been unable to take any nourishment for three days. After receiving four grains of jaborandi-leaves, in the form of a decoction, he had a profuse perspiration, after which the hiccough was completely checked.

The Effect of the Cold-Water Coil.—Tzitovitch ("Ctrlbl. f. d. ges. Therap."; "London Med. Record") has studied the effects of the cold coil, when applied over the spine, in both healthy and sick persons, and his deductions are as follows: 1. No change of temperature, either local or general, follows the application. 2. The effects upon the circulation are very slight, there being sometimes a fall and again a rise in the blood pressure. A slight change in the frequency of the heart-beats and in their strength was noted while the coil was in place. 3. No change was noticed in the cutaneous electro-sensibility. The results, in short, were quite negative.

The Antiseptic Spray in the Treatment of Erysipelas and Burns.—Verneuil ("Bull. gén. de thérap.") exposes the affected parts to a spray of carbolic acid or hydrate of chloral (1 to 100) for several hours daily. In the intervals, compresses soaked in a two-per-cent. solution of carbolic acid are applied. He recommends this treatment, not only on account of the antiseptic properties possessed by carbolic acid, but because of its anæsthetic effect. The histories of a large number of severe cases are detailed, in none of which did any unpleasant symptoms follow the prolonged use of the spray. Only two of the patients died.

Antiseptic Silk and Catgut.—Roux ("Rev. méd. de la Suisse"; "Ctrlbl. f. Gynäk.") gives the following brief directions for preparing antiseptic ligatures, which are divided into several different grades: 1. Raw catgut should be placed for eight days in pure oil of turpentine, then washed for a quarter of an hour in ether, and kept in absolute alcohol. 2. Immerse raw catgut for an hour in a two-per-cent. solution of corrosive sublimate, and then for eight days in turpentine. It should be kept in alcohol. 3. Dry silk for an hour in an oven, at a temperature of 180° F. 4. Boil the silk for an hour in a two-per-cent. solution of corrosive sublimate, wash in ether, and preserve in alcohol. 5. Immerse silk for eight days in a two-per-cent. sublimate solution, wash in ether, and keep in alcohol. 6. Soak the silk for eight days in oil of turpentine, wash in ether, and keep in alcohol. 7. Keep silk for eight days in the sublimate solution, then for eight days more in turpentine, and preserve as before. The writer states that the treatment with ether is for the purpose of extracting the excess of the antiseptic, so that the ligatures will not irritate the tissues. He has thoroughly tested all these ligatures by placing them in sterilized gelatin, and in no instance were micro-organisms observed. He says that No. 1 and No. 2 will be found most useful in surgical operations.

Iodoform.—Terrillon ("Semaine méd."; "Bull. gén. de thérap.") gives the following formula of a preparation which may be safely injected into goîtres or enlarged glands:

Iodoform..............................	15 grains;
Benzol................................	2 drachms;
Oil of wintergreen........................	2 drops;
Fluid cosmoline (*huile de vaseline*)........	3 drachms.

The Adulteration of Iodoform.—Biel ("Pharm. Centralhalle;" "Dtsch. Med.-Ztg.") calls attention to the fact that iodoform is frequently adulterated with picric acid, a substance which is poisonous and tends to explode when triturated in a mortar. The latter is easily soluble in alcohol and ether, and has the same melting-point as iodoform, as well as its yellow color and crystalline structure, so that it readily eludes detection. The writer says that, if the suspected powder is suspended in water and then filtered, the filtrate should be perfectly clear if the iodoform was pure. If a solution of cyanide of potassium is added to it, a brownish-red color will appear if the slightest trace of picric acid is present, and within a few minutes a precipitate of a similar color will be deposited.

Tannate of Pelletierine.—Senator ("Berlin. klin. Woch."; "Dtsch. Med.-Ztg.") refers to this salt of an alkaloid obtained from the root of the pomegranate as a valuable tæniacide, although an expensive drug. Its use is followed by fewer general disturbances than that of any other vermifuge. The dose is about twenty grains.

Hydrocotyle Asiatica.—It is well known that this plant is held in high esteem in India as a remedy for various skin diseases. According to the "Lancet," the powdered leaves are administered in doses of ten grains three times a day. It may be incorporated in an ointment or applied to ulcers in the form of a poultice. Insufflations of the powder are highly recommended in the treatment of ozæna.

Mercury in Typhoid Fever.—Kalb ("Berlin. klin. Woch."; "Dtsch. Med.-Ztg.") has employed this method of treatment in upward of a hundred cases, and eighty per cent. of the patients were entirely free from fever at the end of ten days. A drachm and a half of the ointment is to be rubbed into the skin of the abdomen and the inner side of the thighs every day for seven days. At the same time the patient is to take eight grains of calomel and a grain of opium every six hours, and a considerable amount of alcohol. The writer states that the temperature falls rapidly at first, then rises to its former level, and there remains steady until the eighth day, when it falls to normal. He says that he has never seen a case of salivation.

A Pill for Scarlatinal Nephritis.—Bouloumié ("Union méd.") gives the following formula:

Gallic acid,	each.................. ⅓ grain;
Extract of rhatany,	
Boiled turpentine (oil of turpentine that has been kept in a dish of boiling water until it has become thick),	each, 1⅔ grain.
Gurjun balsam,	

From six to eight pills are to be given daily.

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Original Communications.

FIFTY CASES OF ABDOMINAL SECTION;

WITH REMARKS ON LAPAROTOMY.

By JAMES B. HUNTER, M. D.,

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In reporting a series of fifty cases of abdominal section, I have added some remarks to such of the cases as seemed of special interest. My opinion on certain points in laparotomy is not based on these cases alone, as I have had the opportunity of witnessing about seven hundred operations of the kind, beginning with those of I. Baker Brown in 1866. In a large number of these cases I have acted as assistant, and have also had the subsequent care of the patients. In many others such notes have been made as were suggested at the time.

It is well to make a rule, in all cases of abdominal disease, to submit the patient to a thorough examination as to diseases of the other organs before deciding upon any operation. It is especially important that the urine should be carefully examined, more than once, and the condition of the heart and lungs investigated.

The Incision.—It is always best, except in cases of large, solid tumors, to begin with a small incision. An incision three inches in length is quite sufficient for diagnostic purposes, and for the removal of many large cystic tumors. It is easy to enlarge the incision, and in case that is not necessary there is greater certainty of obtaining good union of the abdominal walls.

The Spray and Antiseptics.—I consider the use of the carbolized spray invaluable in the operating-room. It should be very fine, and allowed to fill the room for at least an hour before the operation, the apparatus being placed high. During the operation it should be directed away from the patient, and on no account be allowed to play directly upon the exposed abdominal viscera. Coarse spray thus directed will rapidly cool the surfaces that should be kept warm, and thus, if not by the poisonous effect of the carbolic acid, add greatly to the danger of shock. The spray is especially valuable when spectators are present, as constituting a sort of veil between them and the patient. The water used for the spray, as well as that used for sponges, instruments, irrigation, etc., in all abdominal operations, should be water that has been boiled, and, if possible, water that has been heated above the boiling point. A microscopic examination of the sediment from the water ordinarily used for washing purposes will demonstrate the necessity for this precaution. The use of a small quantity of some antiseptic, while a large quantity of impure water is allowed, is a good instance of straining at a gnat and swallowing a camel. The ideal antiseptic environment is very hard to obtain. It requires perpetual vigilance, even in the best regulated hospitals, to secure satisfactory antiseptic conditions; and in private practice, with strange or indifferent nurses, it is next to impossible, even where expense is not regarded. In fact, the proper use of antiseptics is much more a matter of faith than of expense, and, without the cordial co-operation of all concerned, there will pretty surely be some vulnerable points. These may often be covered by the judicious use of the spray, which, with certain precautions, can not possibly do any harm. I now believe carbolic acid fully as efficient an antiseptic as the bichloride, while it is free from the dangers and inconveniences attending the use of the latter. The bichloride can not be used for the instruments, and the use of two solutions is a source of perplexity to assistants and nurses. The result is often that neither one is employed thoroughly.

Illumination.—The small, portable electric light now to be obtained will be found of great practical utility in searching for deep-seated bleeding-points during a difficult operation.

Drainage-Tubes.—There is room for the exercise of much judgment in the use of drainage-tubes. If there is danger of hæmorrhage, a small, straight glass tube left in the lower angle of the wound gives a valuable indication of what is going on within. The tube may be examined from time to time with a syringe, or with a little absorbent cotton on a probe. If there is no bleeding, the tube may be removed within a few hours, and the wound closed. If there is evidence of oozing, the tube affords a means of removing the blood or serum. A little blood is often disposed of by the peritonæum without difficulty, but sometimes a very small quantity is sufficient to give rise to septicæmia. The danger of leaving a small tube in the wound, provided it is lightly closed and well covered with an antiseptic dressing, is very slight. Where there have been extensive adhesions separated, or where any portion of a cyst remains, or where there is a very large pedicle, the use of a drainage-tube is advisable. The best tubes are those made of glass, of small caliber, perfectly straight, and having no openings at the side. In adjusting these tubes in the wound all the sutures that will be necessary for the final closing of the wound should be passed while the patient is under ether, and the ends left long, so that, on the removal of the tube, the wound may be closed without pain or disturbance.

Closing the Abdominal Wound.—Sufficient attention has not been given to the very important matter of securing a firm abdominal wall. Sometimes the edges of the wound are not brought together exactly, and therefore fail to unite perfectly. Sometimes an abscess forms in the site of the wound, rendering the subsequent union slight and liable to yield to pressure. For over three years past I have made a practice of closing the peritonæum separately, with a continuous catgut suture, using what is known as the "button-hole" stitch. Before closing the peritonæum, one, two, or three silver-wire sutures, according to the length of the wound, are passed directly through the abdominal wall, including the peritonæum. These sutures are left loose until the others are introduced. The rest of the sutures are of silk, thoroughly carbolized, and are carried through everything but the peritonæum. Where a drainage-tube is used, the peritonæum is closed with catgut up to the tube. Since adopting this method of closing the wound, I have rarely seen abscesses or imperfect union.

Refrigeration.—The use of refrigeration, generally by the rubber coil, in incipient peritonitis, is of inestimable value. Where peritonitis is fully developed, it is still efficient. In cases of septicæmia the abstraction of heat does not necessarily benefit the patient. The temperature may be kept down to the normal point in such cases, and yet they may go on to a fatal termination.

Case I.—This patient was operated upon in a tenement-house, with very unfavorable surroundings and at the worst season of the year. She had been tapped several times before the operation, and the peritonæum had a peculiar granular appearance, indicative of previous inflammation. A large quantity (about ten quarts) of ascitic fluid had been removed three weeks before the operation. The abdomen was again distended with it when it was opened. Sixteen days after the operation it was again necessary to use the aspirator, and twelve quarts of fluid were removed. There was no further accumulation, and the patient made a slow but satisfactory recovery. She was well two years afterward, and there had been no return of the dropsy.

Case II.—The diagnosis of a tense ovarian tumor was made in this case, as a globular mass, freely movable, was felt, having no apparent connection with the uterus. This proved to be a true fibroid tumor, attached to the fundus of the uterus by a pedicle about half an inch in diameter. The tumor was removed, and the pedicle secured in the wound by a clamp. Both ovaries appeared to be in normal condition, and were not interfered with. The patient made a good recovery, and has since borne two healthy children. The tumor weighed a little over two pounds.

Case III.—This patient was operated upon in a cabin in the Catskill Mountains, near Ashland, and was under the care of Dr. W. H. Meade. No antiseptics were employed. The condition of the opposite ovary was not normal, and the question of removing it was considered. After some hesitation it was decided to let it remain. This decision has been a matter of congratulation, as the woman has borne several healthy children since the operation.

Case IV.—In this case, also one of ovarian tumor, there was some doubt as to the condition of the opposite ovary, but it was decided not to remove it. The patient became pregnant, and nine months after the operation was delivered of a healthy child at full term.

It is often a serious question whether the opposite ovary, though not apparently normal, is sufficiently diseased to warrant its removal. If the patient is not past the child-bearing age, the opposite ovary and tube should be very carefully examined, and removed only if there is evidence of disease. In many cases of ovarian tumor the opposite ovary has an apparent tendency to cystic disease. It is a misfortune to remove a healthy ovary, and it is equally a misfortune to allow one that is diseased to remain, and thus place the woman in peril of a second operation.

Case VIII.—This patient was examined on Saturday, March 29th, and directions were given that she should be prepared for an operation on the following Monday. At the time appointed she was etherized and placed upon the table, when it was found that the tumor had entirely disappeared. The change was due to a rupture of the sac, and the operation was postponed. One month later the sac had refilled, and the usual operation for its removal was performed. A quantity of ovarian fluid was found in the abdominal cavity, but the sac was full and tense. The point of rupture could be distinctly seen on careful examination, but it had closed firmly. No disturbance followed the rupture of the sac. The patient was kept in bed a few days, but had no symptoms of peritonitis. The contents of the sac were straw-colored and viscid.

This case illustrates the fact that the fluid contained in an ovarian cyst is not necessarily irritating to the peritonæum. When this case was reported to the Obstetrical Society, several others were cited in which the peritonæum had tolerated the presence of ovarian fluid. I have several times seen the abdominal cavity bathed in fluid from ovarian cysts ruptured during operations, without any bad consequences afterward.

Case IX.—A multilocular cyst, weighing twenty pounds and a half, was removed from the left side. Adhesions were very firm to the abdominal walls and omentum, but were separated after much hæmorrhage. The right ovary showed several small peripheral cysts, but it was decided that it was not sufficiently diseased to justify its removal. (See Case XIX.)

Case X.—In this case a multilocular cyst weighing thirty-five pounds was found on the right side. The fluid was for the most part dark and thin, and flowed freely through the cannula. As there were no adhesions, the collapsed sac was removed through an opening two inches and a half long. The left ovary was normal, and therefore was not interfered with. The tumor had been noticed eleven years before the operation, and had been steadily growing. It had caused no pain. The patient, having a dread of ether, was rendered unconscious by nitrous-oxide gas before ether was administered. By this means, which I have frequently employed, but which is too cumbersome and expensive for general use, the after-vomiting and nausea are almost entirely avoided, and the quantity of ether consumed is comparatively small.

Case XI.—The tumor in this case had crowded the uterus forward and was firmly adherent to the posterior surface of the uterus, to the intestines, and to the abdominal parietes. It was found impossible to enucleate or to detach more than a small portion of the upper part of the cyst. Having punctured and emptied the cyst, an effort was made, by passing the hand into it, to detach it still further, but without success. About one third of the sac was drawn out and excised, and the margin attached by silver-wire sutures to the abdominal wound, which was then brought together, except at the lower angle, where space was left for the insertion of a drainage-tube. Thomas's hard-rubber double tube was used. It reached to the bottom of the empty cyst. The dressings were applied over the drainage-tube, and, without disturbing them, the cavity of the sac was washed out every three hours with a five-per-cent. warm carbolic solution, by means of a Davidson's syringe connecting with one arm of the drainage-tube. From the other arm a tube conveyed the water to a vessel beneath the bed. The sac rapidly contracted, and at the end of the third day a smaller drainage-tube was required. By the twelfth day the cavity was almost closed. A small sinus remained when the patient was discharged. Eighteen months later the patient was examined, and a sinus that would barely admit a small silver probe to the depth of three inches was found to occupy the site of the tumor. A drop or two of serous fluid could be squeezed out once a day, but the patient was in perfect health, and suffered but slight inconvenience from it. The patient was married in the summer of 1884.

Case XII.—In this case the right ovary, which was cystic, was removed. There were very firm adhesions. Ten hours after the operation the patient showed signs of hæmorrhage, and the wound was opened. Bleeding was found to have occurred from the torn adhesions behind the uterus, and from a point below the ligature which secured the pedicle. The latter point was secured by ligature, and there was no further hæmorrhage, but the patient died from exhaustion a few hours later.

I have been very careful since this case to make as little traction as possible in raising the ovary for the purpose of securing the pedicle, and to avoid the use of a ligature twisted too tightly, as I have on several occasions known hæmorrhage to occur below the ligature, though the ligature had been perfectly secure.

For the discovery of bleeding points from torn adhesions deep in the pelvic cavity, I have found a large cylindrical speculum sometimes useful. Bleeding points which can not be tied may be touched with Paquelin's cautery. Firm pressure made by a sponge nearly dry will sometimes suffice to check oozing.

Case XIII.—Both ovaries and tubes were removed for the relief of dysmenorrhœa so severe as to incapacitate the patient from doing any work. Both ovaries were large and cystic. The patient reported, November 9, 1883, that she was cured of her dysmenorrhœa, but was suffering from threatened ventral hernia consequent upon imperfect closure of the wound in the abdominal wall. With a broad truss, however, she was able to attend to household duties, and was comfortable.

Case XIV.—There was much doubt about the diagnosis of this case, which was pronounced by several who examined it to be one of fibroid tumor of the uterus or of fibro-cyst. The usual incision in the abdominal wall exposed a double ovarian tumor. The tumors were firmly adherent to each other and to the uterus, which lay concealed between them. The right cyst was enucleated and the capsule tied. It was found impossible to enucleate the left cyst or to detach more than half of it. The upper portion was cut off, and the lower portion, which was very thick, was tied in five sections with strong silk and afterward attached to the edges of the abdominal wound, so as to shut off the abdominal cavity from that of the cyst. A glass drainage-tube was used, and the sac washed out every three hours with warm carbolized water. The wound filled up rapidly, and was entirely closed before the patient was discharged. The patient has reported frequently, and has remained perfectly well.

Case XV.—This patient had been under observation for a year before she entered the hospital, and had been repeatedly seen and treated during her menstrual period, when she suffered unmistakable agony. Her pains began several days before menstruation, and were referred by her to the right side. She had tried all the usual remedies, and at the last obtained partial relief from large doses of morphine. She had gradually given up all household duties, and was practically bedridden. The right ovary and tube were found to be much diseased and firmly adherent to the uterus. After much difficulty they were removed. The left ovary was also adherent, but was apparently free from disease. After a slight attack of peritonitis the patient made a good recovery, and for six months afterward was entirely free from dysmenorrhœa, able to go about and do her work, and considered herself as well as ever. After that time dysmenorrhœa returned gradually, increasing in severity each month, the pain being referred distinctly to the *left* side. She was exceedingly anxious to have another operation performed. Examination revealed what appeared to be a cystic ovary and a large tube on the left side. An exploratory incision was made, but it was found impossible to detach the ovary, which was enlarged and very firmly bound down together with the retroverted uterus. Some adhesions behind the uterus were separated, so that it could be raised partially into place, but the attempt to remove the ovary was abandoned. The patient made a good recovery.

Case XVII.—The tumor was found on the left side, with no pedicle, but firmly attached to the uterus, pelvic wall, and a portion of the intestines. With great difficulty it was enucleated, and the capsule divided into two portions and ligated separately. The broader portion was separated, with much risk, from the intestines. A smaller tumor of the right ovary was then discovered, also firmly adherent to the uterus and the pelvic wall. This was treated in the same manner. The bleeding points were tied, or touched with the actual cautery. A glass drainage-tube was left in the wound, but there was no subsequent hæmorrhage or discharge. The mass remaining after the enucleation of the tumor on the left side was remarkably thick and vascular. The patient died of septic peritonitis on the eighth day.

It would probably have been better in this case to treat the sac as in Case XI and not attempt to remove the entire tumor, but the peculiarities of the case could not be discovered until the operation had proceeded too far to admit of treating the cyst by drainage alone.

Case XIX.—This patient (see No. IX) was first operated upon April 11, 1881. An ovarian tumor, weighing twenty and one half pounds, was at that time removed from the left side. April 2, 1883, a tumor of about the same size was found on the right side, and removed. There were firm and extensive adhesions, but no troublesome hæmorrhage followed their separation. On cutting through the abdominal wall on the right side of the old wound, a cavity was entered, directly beneath the skin, communicating by an opening half an inch in diameter with the peritoneal cavity. This was doubtless the result of an imperfect closure of the abdominal walls after the operation, and the formation of an abscess, of which, however, there was no external sign. The abdominal wound was closed the last time in such a manner as to obliterate the cavity, and a firm union was the result.

Case XX.—There was found, on opening the abdominal cavity, evidence of extensive peritonitis and some ascitic fluid. There were two distinct multilocular ovarian cysts. The peritonæum was thickened and leathery, and studded with small granules. There was on the right side a tumor weighing fourteen pounds, and on the left side one weighing six pounds. There were few adhesions, but the pedicles were short and it was necessary to tie close to the uterus. There was much distress from tympanites on the second and third day, and, as there was some obstruction to the passage of a bougie or rectal tube and the condition of the patient was becoming desperate, the patient was given chloroform and the abdominal wound opened. A firm stricture was found in the rectum near its junction with the colon. By holding the rectum in the fingers at the point of obstruction, a small rectal tube was passed without much difficulty, allowing the escape of a large quantity of gas. The patient died of peritonitis and exhaustion on the ninth day.

This case was an exceedingly interesting one in many respects. In addition to the ascitic fluid there were five distinct varieties of ovarian fluid obtained by puncturing the various cysts. The extensive peritonitis that was found to exist had been accompanied by a very moderate rise in temperature. The stricture of the rectum was caused by contracting bands of lymph, and was a most perplexing feature. Besides peritonitis, there was found colloid degeneration of the omentum.

Case XXI.—The operation in this case was done for the relief of a very severe and persistent form of dysmenorrhœa. Both ovaries were cystic and there was double hydrosalpinx. There were no adhesions, and the operation was simple and satisfactory in every respect. Two small sponges only were passed into the abdominal cavity. The pedicles were tied with silk, which had been thoroughly prepared. Antiseptic precautions were observed carefully in every detail. The patient nevertheless developed peritonitis, which was uncontrolled by the most active measures, including the cold coil, and died on the ninth day.

Case XXII.—This patient had suffered so much pain for years that her friends believed her to be verging on insanity. Both ovaries were found to be large and cystic, and the tubes distended with pus. An abscess formed in the abdominal wound and was progressing favorably, when the patient herself removed all the dressings, disturbing the line of union. A few days later she did the same thing again, and left the hospital without permission. She had in consequence a very imperfect union. She has been seen several times since, and has now a large ventral hernia. Two days after the operation, in consequence of a rise in temperature, the patient was placed upon Kibbee's cot and kept there until the temperature had fallen. Since the operation the patient has been free from her old pains, and has enjoyed fair health.

Case XXIV.—This patient had suffered for eight years from severe dysmenorrhœa. She was confined to her bed several days each month. The periods were irregular, and menstruation latterly had lasted from ten to fifteen days. She had tried faithfully the various remedies, including galvanism, but was gradually growing worse. An examination under ether resulted in a diagnosis of left salpingitis and an enlarged ovary on the same side.

She was not at any time in the month able to walk well, and even a short walk was followed by severe pain, which compelled her to lie down for several hours. Tait's operation was performed in the usual manner. Both Fallopian tubes were enlarged and occluded; that on the right side was distended with pus. Both ovaries were cystic, the left one being of about twice the usual size. The patient recovered without a single bad symptom, and has reported regularly every three months since her discharge. At the end of a year she wrote that she was then entirely free from all her old pains, that she had not menstruated since the operation, that she was able to do more work than she had done for the last eight years, and that she had never been better in her life.

Case XXV.—In this case there was found a double ovarian tumor, having but a single pedicle, which was on the left side. The mass as it appeared before evacuating the contents of the cysts was like an hour-glass in shape, and attached to the central portion was a pedicle, not larger than the little finger, at the junction of the cysts. There were firm and extensive adhesions to the omentum and to the abdominal parietes, and much blood was lost during the operation from the separation of these adhesions.

Case XXVI.—This case was very difficult of diagnosis. The sound could not be passed more than two inches into the uterus. A large globular tumor was felt above the pubes, but, as opinion varied as to the nature of the tumor, it was decided to make an exploratory incision. On cutting through the abdominal walls a vascular tumor appeared, which proved to be the uterus. An elastic ligature was thrown around as near as possible to the cervix, and the uterus was then laid open, exposing a fibroid tumor attached to the entire cavity, and with especial firmness near the cervix. The attachments were separated with some difficulty, and a mass weighing two pounds was removed. The attachment of the tumor to the uterus on all sides had prevented the passage of the sound, and thus obscured the diagnosis. After the removal of the tumor, it was thought safer to remove the uterus than to attempt to close a long incision in an abnormally vascular organ. A large clamp was applied so as to include as much as possible of the cervix, everything above the clamp was then removed, and the wound closed up to the pedicle, to which the actual cautery was applied. There was very little hæmorrhage throughout the operation. The clamp was removed at the end of the first week. One week later the remainder of the cervix sloughed away entirely, leaving a free opening from the abdominal wound to the vagina. Warm carbolized water was passed through this wound several times every day. The canal gradually diminished in size, and was closed entirely seven weeks after the operation, merely a depression remaining. The patient was discharged March 3d perfectly well. She reported for examination a year later, when there was very little trace of the operation beyond the usual scar. She had been actively engaged in household duties.

It would have been next to impossible, even had the exact condition of the uterus been known, to remove so large a tumor by means of the vagina. The woman was unmarried, and the vagina and cervix were very small. The difficulty and danger of forcible dilatation, and the removal of the mass piece-meal, would have been very great.

Case XXVII.—An ovarian tumor weighing thirteen pounds was removed from the right side. On the left side the ovary was cystic, and the tube was distended, almost to the point of bursting, with what had the appearance and consistency of black paint. This, with the left ovary, was removed. There was also a fibroid tumor as large as a walnut attached, by a short, broad pedicle, to the fundus of the uterus. The pedicle was transfixed and tied, and the mass removed. This patient had suffered much more pain than is usual during the development of an ovarian tumor, and was much emaciated. She entirely regained her health.

Case XXVIII.—This patient had suffered for some years from severe dysmenorrhœa, and had all the symptoms of salpingitis. She was practically confined to the house, suffered constantly with nausea, was becoming rapidly emaciated, and was in danger of resorting habitually to the use of morphine. Both ovaries and tubes were found to be diseased and were removed. The left ovary was of about twice the normal size. Two thirds of its substance consisted of a dermoid cyst. The patient has been free from severe pain since the operation, but has not yet entirely recovered her health. She has menstruated several times.

Case XXIX.—Two semi-solid ovarian tumors were removed, involving both ovaries, and firmly adherent to the abdominal parietes. A papillomatous growth was found attached to one tumor. The patient had suffered much pain, had become emaciated, and there was ascitic fluid in the abdominal cavity. The tumor on the right side extended up to the liver. There were evidences of old peritonitis, and many adhesions to the intestines. The patient died of shock ten hours after the operation. Post-mortem examination showed granular kidneys.

Case XXX.—This patient had, for two weeks before the operation, a temperature varying from 100° to 104°, and was in very bad condition. The operation was done as early as possible. On opening the abdomen, there were found two very tense ovarian cysts, containing what had the appearance and odor of fœtid pus. One cyst was so firmly attached that it was impossible to remove the whole of it. It was evacuated and thoroughly washed out. The upper third was excised, and the edges of the cyst fastened in the abdominal walls, a double drainage-tube being placed in the remainder of the sac. Both cysts included the tubes, and were tubo-ovarian cysts. Twelve hours after the operation the temperature in the vagina was 107·5°, and the pulse strong and very rapid. The patient died the following day. There can be very little doubt that her life would have been saved by an operation done earlier, but it was not practicable.

Case XXXI.—A large ovarian tumor was exposed, very firmly attached on all sides. After carefully enucleating the upper half of the tumor, the lower half was found to be free from attachment, so that the sac was inverted and a thick, broad pedicle formed of the remains of the sac and its capsule. The operation lasted one hour and fifty minutes, but there was not much hæmorrhage. The actual cautery was applied to the cut surfaces. No drainage-tube was used. The patient made an unusually good recovery.

Case XXXIII.—This patient had suffered for two years from an intolerable dysmenorrhœa. The pain was most severe three or four days before the flow, which was scanty and irregular. One year before the operation she was carefully examined under ether, and the diagnosis made of a large, prolapsed ovary, with retroversion of the uterus. Treatment by packing with cotton, by pessaries, and by rest was tried very thoroughly, for many months, but her condition grew gradually worse, and the operation alone promised relief.

The patient has menstruated several times since the operation, though both ovaries and tubes were entirely removed. The right ovary was large and cystic, and the tube distended with fluid (hydrosalpinx); the left ovary was also cystic and large, but the tube was apparently normal. Six months after the operation the patient began to suffer with severe headache each time when menstruation should have occurred. As this headache was very intense, and apparently congestive, venesection was advised, and about ten ounces of blood were removed, resulting in complete relief for that time, and for two subsequent periods. The patient has not reported since.

Case XXXV.—Increasing hæmorrhage and pain rendered an operation of some kind imperative in this case. It was proposed at first to remove the ovaries alone, but they were found so firmly adherent to the fibroid tumor that it was impossible to separate them with safety, the surface of the tumor being covered with large vessels. The whole mass was forcibly raised, and an elastic ligature passed around the cervix and secured. The cervix was then transfixed and tied in two portions with silk, the surface seared with the actual cautery, and the stump dropped back. The abdominal wound was closed entirely, and the patient recovered without any bad symptoms.

Case XXXVI.—This patient had been perfectly well until within a year of the time she applied for relief. She had no suspicion of the existence of a tumor, and was distressed only by a tendency of the uterus to come down, as it had never done before. On examination, the cervix was found at the vulva, and a large ovarian tumor was discovered. The patient had suffered no pain whatever. The tumor weighed twenty pounds.

Case XXXVII.—This patient was unaware of the existence of a tumor, and had not noticed any enlargement, but had suffered almost constant severe pain for six months. A dermoid cyst was found on the right side, and a large cystic ovary on the left.

Case XXXVIII.—This patient was delivered of a healthy child four weeks before the operation. Her enormous size during pregnancy attracted attention, and she was apparently very little smaller after delivery. The tumor, which weighed over seventy pounds, contained many small cysts with semi-solid contents. The only peculiarity in the case was that so large a tumor should have co-existed with a normal pregnancy. The patient recovered without a single bad symptom.

Case XXXIX.—The pain and weight of the tumor in this case, both constantly increasing, rendered some interference necessary. A fibroid cystic tumor was found, and the enlargement of the uterus was such that the cervix was almost obliterated. An elastic ligature was used, and the mass removed from the cervix without hæmorrhage. The tumor had also a firm and broad attachment to the brim of the pelvis, which was ligated. The stump of the cervix was cauterized and dropped back. The patient had suppression of the urine on the second day, and died, comatose, on the third day.

Case XLI.—This case was remarkable for the firm and extensive adhesions which were found in every direction. The operation was long and tedious, many bleeding points were tied, and the intestines were exposed to much manipulation and repeated sponging. The patient recovered without a single bad symptom.

Case XLIV.—This was a case of fibro-cyst of the uterus. There were firm adhesions to the omentum and to the bladder. As in Case XXXIX, the pain and sensation of weight led the patient to seek relief. The elastic ligature was applied to the cervix. The uterus was then removed, and the pedicle transfixed with two long knitting-needles above the ligature, which was allowed to remain in place. The peritonæum was attached to the cervix just below the ligature with sutures of silver wire. The patient recovered without any bad symptoms, the ligature and stump of the pedicle coming away together on the tenth day.

Case XLV.—This patient had been an invalid for many years, suffering from ovarian neuralgia. The operation was accomplished without the slightest difficulty. Salpingitis existed on both sides, but there were no adhesions. The ovaries and tubes were removed with the greatest ease, and there was no loss of blood whatever. Seven minims of Magendie's solution were administered hypodermically after the patient was put to bed. An hour later she was profoundly narcotized, not having recovered consciousness. An hour later there was acute œdema of both lungs, and the patient was cyanotic; and, though vigorous measures were adopted, she died four hours after the operation. There was evidence that a large dose of morphine had been taken by the patient herself before the operation.

Case XLVI.—This patient had been under medical care and treatment for five years. She was the mother of four children, living in moderate circumstances, and accustomed to a very active life. She had suffered for five years from dysmenorrhœa, which had gradually increased in severity and duration. Latterly she suffered pains four or five days before menstruation, and through the whole period. The flow was generally scanty, but lasted from six to eight days, and was followed by a discharge of offensive "matter," lasting sometimes two days. Physical examination gave unmistakable evidences of an enlarged tube on the left side. At the operation both tubes were found to be very large, and the left one was distended with pus. The left ovary was large and cystic, and the right one hard and atrophied. There were very firm adhesions, which were separated with much difficulty. There was some oozing from the torn adhesions, which continued several hours.

A glass tube was left in the lower angle of the wound until the oozing ceased. Ten hours after the operation it was removed, and the wound closed. The patient recovered without any bad symptoms, and with a scarcely perceptible rise of temperature at any time. She has been free from pain since the operation.

FIFTY CASES OF ABDOMINAL SECTION.

No.	Age.	Married or Single.	Date.	Place.	Length of incision.	Weight of tumor.	Character of tumor.	Adhesions.	Indications for operation.	Pedicle.	Drainage-tube.	Result.	REMARKS.
					In.	Lbs							
1	24	M.	Aug. 9, 1873.	Private case.	3	13	Multilocular cyst, left side.	None.	Growth of tumor and ascites.	Ligature.	None.	Recovery.	Had been tapped 5 times. Twelve quarts of fluid removed by aspirator; seventeenth day after operation. Well two years later.
2	35	M.	Feb. 12, 1876.	Woman's Hospital.	5¾	2½	Fibroma of uterus, with pedicle.	"	Increasing pain.	Clamp.	"	"	Tumor of four years' growth. Patient has had two children since operation.
3	22	M.	June 18, 1878.	Private case.	3½	40	Multilocular cyst.	Slight.	Increasing size of tumor.	Ligature.	"	"	Normal labor six months before operation. Two children since.
4	33	M.	May 2, 1879.	Woman's Hospital.	2½	20	"	Parietal.	"	"	"	"	Delivered of female child, September 29, 1881.
5	42	M.	Dec. 8, 1880.	"	3	21½	"	None.	Severe pain & œdema of legs.	"	"	"	
6	36	S.	Feb. 2, 1880.	"	3	20½	"	"	Increasing size of tumor.	"	"	"	Well a year after operation.
7	50	M.	April 26, 1880.	"	3½	18	Carcinoma ovarii.	Parietal.	Rapid decline in health.	"	"	"	
8	50	M.	Dec. 20, 1880.	"	2½		Multilocular cyst.	None.	Increasing size of tumor.	"	"	"	Cyst ruptured one month before operation.
9	46	M.	April 11, 1881.	"	5	20½	"	Firm.	Rapid decline in health.			"	Opposite ovary apparently normal, but another cyst developed later. See Case 19.
10	34	M.	May 12, 1882.	"	3	35	"	None.	Increasing size of tumor.	"	"	"	Opposite ovary size of walnut, but not removed, in accordance with express wish of patient.
11	23	S.	Dec. 2, 1882.	"	3½		"		Pain and increasing size of abdomen.		Glass.	"	Cyst so firmly and generally adherent that only a part of it could be removed. Drained the remainder. Very small fistula remained. Patient since married.
12	28	M.	Dec. 11, 1882.	"	3		Cystic ovaries.	Very firm	Severe dysmenorrhœa.	"	None.	Death.	Hæmorrhage from torn adhesions and from pedicle *below* ligature, cut by ligature. Tubes not removed.
13	30	S.	Jan. 22, 1883.	"	3½		"	None.	Incre'sing dysmenorrhœa.	"	"	Recovery.	
14	27	S.	Feb. 5, 1883.	"	4		Multilocular cyst.	Firm to uterus & pelvis.	Size of tumor and pain.			"	Both ovaries seat of large cysts, which were removed. Cyst-walls tied in sections.
15	33	M.	Feb. 12, 1883.	"	4		Both ovaries cystic.	Firm.	Dysmenorrhœa.	"	"	"	Left ovary so firmly bound down it could not be removed. Right ovary and tube removed.
16	29	S.	Feb. 26, 1883.	"	3½		Multilocular cyst & cyst of broad ligament.	Firm and general.	Severe pain, constant.	"		"	Cyst of left ovary and cyst of opposite broad ligament. Very firm and dense adhesions.
17	30	S.	Mch. 12, 1883.	"	4		Multilocular cyst.	To the intestines & uterus.	Increasing size of tumor, œdema.			Death on 8th day.	Right ovary cystic; removed. Large cyst of left ovary attached to uterus; enucleated.
18	31	M.	Mch. 24, 1883.	"	3		Pelvic abscess.		Pain and emaciation.			Recovery.	Abscess could not be reached. Stricture of rectum. Patient well in 1885.
19	48	M.	April 2, 1883.	"	5	20½	Multilocular cyst.	To ut'rus, int'stines, etc.	Pain and growth of tumor.			"	Second operation. See Case 9.
20	53	M.	April 23, 1883.	"	5	20	Double multilocular cyst.	Parietal.	Pain, dyspnœa, weakness.			Death on 9th day.	Both ovaries removed. Autopsy showed colloid degeneration of omentum and chronic peritonitis.
21	28	S.	May 7, 1883.	"	4		Cystic ovary; hydrosalpinx.	None.	Dysmenorrhœa.	"	"	"	Diffuse peritonitis.
22	32	M.	May 18, 1883.	"	3½		Ovaries cystic.	"	Dysmenorrhœa.	"	"	Recovery.	Operation under spray. Large mural abscess. Closed by a second operation.
23	34	S.	Oct. 15, 1883.	"	3	25½	Multilocular cyst.	"	Pain and increasing size of tumor.	"	"	"	Peritonæum closed separately with continuous catgut suture.
24	30	M.	Oct. 25, 1883.	"	3		Ovaries cystic & tubes diseased.	Firm.	Dysmenorrhœa.			"	Left ovary much enlarged. Patient restored to health.
25	60	M.	Dec. 3, 1883.	"	3	21	Double ovarian tumor.	Firm to omentum and intestines.	Declining health and pain.	"	"	"	Much hæmorrhage at time of operation. Small pedicle.
26	48	M.	Dec. 17, 1883.	"	6	2	Fibroid in uterus.	Firm to omentum and bladder.	Pain, weight of tumor.		"	"	On making abdominal incision found large uterine body. Used elastic ligature and opened uterus and removed fibroid about 2 lbs. weight. Cut off uterus. Cervix sloughed out, leaving opening through to vagina. Patient went home well March 3, 1884.
27	26	S.	Jan. 3, 1884.	Private case.	3	13	Unilocular cyst & small fibroid.	Slight.	Pain.	"	"	"	Opposite ovary and tube diseased and removed. Ovary cystic. Fibroid, size of walnut, removed from fundus of uterus.

FIFTY CASES OF ABDOMINAL SECTION—(*Concluded*).

No.	Age.	Married or Single.	Date.	Place.	Length of incision.	Weight of tumor.	Character of tumor.	Adhesions.	Indications for operation.	Pedicle.	Drainage-tube.	Result.	REMARKS.
					In.	Lbs							
28	32	M.	Feb. 12, 1884.	Private case.	3		Dermoid cyst of left ovary, right cystic.	Firm.	Severe dysmenorrhœa.	Ligature.	None.	Recovery	Dermoid cyst of left ovary; right ovary cystic. Both tubes diseased and removed.
29	37	S.	Mch. 10, 1884.	Woman's Hospital.	6	35	2 multilocular tumors. 1 papillomatous.	Very extensive.	Pain and failing strength; ascites.		Tube.	Death 14 hours after operation.	Removed two semi-solid tumors, involving both ovaries, and firmly adherent to parietes and omentum. One papillomatous tumor. Granular kidney.
30	18	S.	Mch. 12, 1884.	"	6		Double tubo-ovarian cyst.	"	Pain and frequent attacks of peritonitis.		"	Death.	Both cysts suppurating. Acute peritonitis at time of operating. See note.
31	34	M.	April 1, 1884.	"	5	52	Multilocular cyst.	Extensive.	Increasing size of tumor.	"	None.	Recovery	Strong adhesion over upper part of cyst. Enucleated and found lower part free. See note.
32	22	M.	April 15, 1884.	"	3	20	Multilocular cyst & cystic ovary.	None.	Pain.			"	Ovarian tumor on left; cystic ovary on right. Both removed.
33	38	M.	April 25, 1884.	"	2½		Cystic ovaries and diseased tubes.	Firm.	Pain, severe dysmenorrhœa.	"	"	"	
34	37	M.	May 5, 1884.	"	6		Sarcoma of ovary.	Very firm	Pain and emaciation.		"	"	Pelvic adhesions so firm that the tumor could not be removed.
35	48	M.	June 7, 1884.	"	7	4½	Uterus removed.	None.	Pain and hæmorrhage.	"	"	"	Small piece of cervix tied and returned to cavity. Uterine fibroid. No bad symptoms whatever.
36	60	M.	Oct. 6, 1884.	"	3	20	Multilocular cyst.	Slight.	Pain and increasing size.	"	"	"	Not a single bad symptom.
37	19	S.	Oct. 31, 1884.	"	2½	3½	Dermoid & cystic ovary	None.	Severe pain.	"	"	"	Dermoid, right side. Cyst on left.
38	27	M.	Nov. 5, 1884.	Private case.	5	70½	Multilocular cyst.	Parietal and omental.	Large size of tumor.	"	"	"	Patient confined four weeks before operation. Healthy child, nursing day of operation.
39	43	M.	Nov. 13, 1884.	Woman's Hospital.	5	15	Fibro-cyst of uterus.	Firm to omentum & bladder	Pain and weight of tumor.			Death 3d day.	Pedicle three inches in diameter. Uterus as in Case 36. Suppression of urine.
40	46	M.	Nov. 17, 1884.	"	4	6½	Multilocular cyst.	None.	Pain and size of tumor.	"	"	Recovery	Ovarian tumor left side. Right ovary normal.
41	40	M.	Nov. 8, 1884.	"	7	12	Semi-solid tumor, ovarian.	Very extensive and firm.	Pain.	"	"	"	Many bleeding points tied; much sponging and manipulation.
42	23	S.	Dec. 12, 1884.	Private case.	2½		Cystic ovaries; salpingitis.	Firm.	Severe dysmenorrhœa.	"	"	"	
43	38	M.	Dec. 18, 1884.	Woman's Hospital.	2		Cystic ovaries and pyosalpinx.	Very firm	Constant pain.	"	"	"	Former pelvic abscess on left side.
44	48	M.	Dec. 19, 1884.	"	6	15	Fibro-cyst of uterus.	Firm to omentum & bladder	Pain and weight.		"	"	Uterus removed; pedicle treated extra-peritoneally. No bad symptoms.
45	38	M.	Dec. 16, 1884.	Private case.	3		Cystic ovaries and salpingitis.	None.	Pain and nervous exhaustion.	"	"	Death.	Death from morphine and ether.
46	40	M.	Jan. 12, 1885.	Private case.	3		Cystic ovaries and pyosalpinx.	Firm.	Constant pain.	"	Glass tube.	Recovery	Bleeding from adhesions. Glass tube left in for ten hours.
47	28	M.	Jan. 19, 1885.	Woman's Hospital.	2½		"	"	Severe pain and dysmenorrhœa.	"	None.	Death 5th day.	Death due to septic peritonitis; peritonitis began at pedicles.
48	35	M.	Jan. 23, 1885.	"	3			"	Ovarian neuralgia.			Recovery	Right ovary removed two years ago. Left found immovable.
49	35	M.	Feb. 2, 1885.	"	3		Cystic left ovary and l. salpingitis.	Very firm	Severe pain and constant nausea.	"	"	"	
50	50	M.	Feb. 22, 1885.	"	3	20	Multilocular ovarian cyst.	Slight and general.	Increasing size of tumor.	"	"	"	

The "Faith Cure."—In an able article, the Chicago "Times" says: "To a very great extent this new practice is the revival of the old methods resorted to among primitive men. The evil is located among the superior spiritual powers, and by solicitation, as of old, the remedy is sought in the same direction. Among the primitive healers, the article of faith was not included as an essential factor in the processes of cure; in the latest development of healing by imploring the interference of a spiritual agency, faith plays a most important part. If the patient now being treated does not improve or recover, it is due to his lack of faith. Under the ancient kindred system, the lack of recovery was due to the unwillingness of the superior spiritual power to permit such a result. The modern system is more chary of the character of the supernatural agency; it holds the patient responsible for any failure. Substantially, however, the two systems are identical. The wonderful nineteenth century has completed a cycle which connects it directly with a period in which savagery dominated the earth."

ELECTRICITY AS A STIMULANT IN RESPIRATORY AND CARDIAC FAILURE.*

By GASPAR GRISWOLD, M. D., M. R. C. S.

ELECTRICITY has long been conspicuous among the agents recommended for the treatment of sudden prostration, attended with respiratory and cardiac failure. The text-books, in discussing the resuscitation of cases of poisoning with such drugs as chloroform and opium, always include the faradaic current as a stimulant in the same clause with ammonia and alcohol; and every doctor feels it a duty to keep a battery in good order, that he may have it to use in such an emergency. It will be the object of this paper to inquire how far the usual methods of applying electricity in cases of collapse are in accord with what is known concerning the physiology of the heart. Electricity will be spoken of in a general sense, including both galvanic and faradaic currents; in this connection there is no important difference between the action of the two currents beyond the fact that the galvanic is more powerful. In a general way, however, the faradaic current is referred to, being the one far more commonly used in emergencies. A galvanic battery, in good working order, at hand in an emergency, is one of the rarities of medical experience.

Taking into consideration, first, the use of electricity as a stimulant in cardiac failure, the question naturally presents itself, Can electricity be so applied clinically as to stimulate the heart? To answer this question, let us turn for a moment to a short synopsis of the cardiac mechanism. The muscular contractions which constitute the heart-beat are the result of impulses generated by nerve structures situated in the substance of the heart itself. After all the nerves going to it have been cut, and even after it has been removed from the body, the heart still continues to beat.

The pneumogastric nerves exercise an inhibitory influence upon the heart, and modify its action principally by determining the duration of the period of diastole. A mild faradaic current, applied to one or both pneumogastrics, slows the heart by prolonging the diastole, the duration of systole not being visibly affected. A stronger, though still moderate, current slows the heart more conspicuously, prolonging diastole until the heart seems to hesitate whether to beat again; this amount of pneumogastric stimulation disturbs the heart's action sufficiently to considerably retard the circulation. A decidedly strong current paralyzes the heart muscle, and causes permanent arrest in diastole.

Under the name of "accelerator nerves of the heart" physiologists have described some branches from the last cervical and first thoracic sympathetic ganglia, going to the cardiac plexus. Electric stimulation of these "accelerator nerves" causes a quickening of the heart's beat; in this quickening, however, what is gained in rate is lost in force, for the blood-pressure not only is not raised, but may even fall during the stimulation. Indeed, the acceleration of the heart produced by stimulating these nerves closely resembles the quickened pulse of asthenic fevers. The importance of these nerves is not well understood; it is certain, however, that their action is too feeble to antagonize the retarding influence of the pneumogastrics, for, during maximum stimulation of the "accelerators," the thereby quickened heart is at once slowed down by even the mildest stimulation of the pneumogastrics.

To recapitulate: *The heart beats as a result of impulses arising in its own substance. The action of the pneumogastrics is always inhibitory. The "accelerator nerves" increase rate at the expense of force, and retard the circulation instead of assisting it.* In vivisections, after the natural pulsations have ceased, the exposed heart may be made to beat again and again by applying the electrodes directly to the heart muscle; but this effect can not be obtained by the stimulation of any nerve remote from the heart. It is evident from these facts that, to stimulate the heart with electricity, we must apply the current directly to the heart itself; application of one or both poles in the neck, whether it affects the pneumogastric or the "accelerators," must produce an effect the reverse of stimulation. Unfortunately, the relations of the heart and the chest wall are so varying and uncertain that we can not hope to reach the heart efficiently with a current from electrodes applied to the præcordial space. A mild current, under these circumstances, would probably have no effect, while a strong one, reaching the heart after being widely diffused, would be as likely to excite the inhibitory apparatus and stop the heart as to get to the motor centers and stimulate it.

The question, *Can electricity be so applied clinically as to stimulate the heart?* must, therefore, be answered in the negative. The two following cases further illustrate the subject:

CASE I, described in the "Phila. Med. Times" for June 4, 1881, is that of a patient who suddenly developed cardiac failure during etherization, probably from organic disease. To quote the words of the report: "The faradaic battery was brought to the bedside, but, as the respiration was continuing comparatively unaffected, it was only applied for a short time, with one pole to the neck and the other in the præcordial region." The case terminated fatally.

In this instance respiration was not "particularly affected," and electricity seems to have been used entirely with the idea that, with one pole on the neck and the other in the præcordial region, it would stimulate the failing heart. As the poles in this position would lie over the pneumogastric nerve, it is evident that any effect upon the heart must have been the reverse of what was desired. The use of the battery as described may readily have caused the death of this patient by still further depressing the already feeble heart, and, even looking at it in the most favorable light, could certainly have done nothing to prevent the fatal termination of the case.

CASE II is one of poisoning with hydrocyanic acid from eating bitter almonds, and is reported in the "British Medical Journal" for July 2, 1881. The patient was brought to Charing Cross Hospital in a collapsed condition, his apex-beat feeble, and his radial pulse almost imperceptible. Inhalations of ammonia were administered, and, quoting literally, "the current from twenty-five cells of a galvanic battery was applied for ten minutes—one pole over the apex of the heart and the other on the neck, over the course of the pneumogastric nerve."

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* Read before the New York Academy of Medicine, February 19, 1885.

These are the words of the history; and the treatment was repeated several times, the patient finally recovering. It is stated by the physician who reported the case that the favorable termination was due, in his opinion, directly to the employment of the electricity. Now, it is a fact that the current from twenty-five cells of a good battery, applied to the pneumogastrics, will kill instantly the largest dogs, stopping the heart in diastole. A current from five or six cells, applied in the neck over the pneumogastrics, will produce faintness in the average patient and diminish the pulse-rate by ten or fifteen beats. There is every reason to believe that few patients could receive the current from twenty-five cells of a good battery, applied in the manner described, without great danger of instant death from cardiac paralysis. It is evident from these facts that, judging from a rational standpoint, the treatment of this case of hydrocyanic-acid poisoning was improper and calculated to do harm; and the thought naturally occurs, How could the patient recover under the circumstances? This may be accounted for in two ways: 1. The battery may have been out of order, and the current very much weaker than we would suppose, judging from the number of cells mentioned. This explanation seems plausible when we reflect how rare it is, especially in hospitals, to find a galvanic battery in what would be termed good working order. 2. In hydrocyanic-acid poisoning the pneumogastric nerves are paralyzed somewhat as they are after large doses of belladonna. After large doses of belladonna, the pneumogastrics entirely lose their irritability, and the strongest electric currents may be applied to them without having the least effect upon the action of the heart. In the case described, three hours passed after the bitter almonds had been eaten before the electricity was applied. It is probable that the pneumogastrics by that time were so far under the benumbing influence of the poison that they were not much affected by a current which, under more normal conditions, would have been enough to stop the heart. These facts, of course, are not alluded to in the report, the intention of which is to convey the author's opinion that the failing and inefficient heart may be successfully stimulated by galvanization of the pneumogastric. Both cases, Nos. I and II, are discussed in this paper in order to further emphasize the fact that the effect upon the heart of galvanizing or faradizing the pneumogastric is the reverse of stimulating, and is attended, in the case of strong currents, with great danger to life.

In a case where the failure of the circulation seems to be due mainly to the *rapidity* of the heart's action, it is possible that faradization of the pneumogastric may be of use by slowing the heart and tending to restore its normal rhythm. Digitalis does this; but digitalis at the same time stimulates the cardiac muscle, which the electricity would not do. It would be a dangerous thing to expose the heart to the depressing influence of the pneumogastric at a time when the circulation was already failing, and the theoretical benefit to be obtained from a temporary slowing of the heart would scarcely seem to justify so precarious a measure.

When we come to discuss the action of electricity as a *respiratory* stimulant we must admit at the outset that stimulation of the phrenic nerves causes contraction of the diaphragm. The phrenic nerves are very near the surface, and can be reached easily and with certainty by applying the current just above the inner end of the clavicle. Even after death a current applied in this way will cause inspiratory acts again and again, until the nerves lose their irritability from commencing decomposition. It is perfectly rational, therefore, to look upon electrization of the phrenic nerves as a means by which the failing respiration may be stimulated. With this end in view, electricity may be applied in two ways: 1. A mild current may be applied *continuously*, with the idea merely of making the inspiratory acts deeper and more efficient, without particularly affecting their rhythm. 2. A current may be applied of sufficient strength to at once cause a deep inspiration, and the application be *repeated at intervals of three or four seconds.* There is abundant evidence that good results have been obtained by these methods, especially the first; these good results have been, for the most part, described in reports of cases of opium poisoning. On both physiological and clinical grounds, therefore, *if we consider stimulation of the phrenic nerves as a measure by itself*, we must accept it as a proper and logical treatment in respiratory failure. But we can scarcely consider electric stimulation of the phrenic nerves by itself, therapeutically, for the reason that the phrenic and pneumogastric lie so near one another in the neck, equally superficial and not more than half an inch apart, that it is impossible to apply electricity to one of them without simultaneously affecting the other. We can not apply electricity to the phrenic, to stimulate the contractions of the diaphragm, without at the same time applying it to the pneumogastric, whose function it is to retard and even stop the heart. *The identical measure, therefore, by which we aim to assist respiration may, simultaneously and without warning, be the means of stopping the circulation.* This consideration becomes even more significant when we reflect what mild currents of electricity are sufficient to excite the inhibitory influence of the pneumogastric upon the heart. The author had occasion, almost daily for months, to apply electricity to the pneumogastric in two cases of exophthalmic goître. In these cases the usual pulse-rate was 120 a minute, but it at once fell to 100 or 90 when a very mild current from four or six cells of a galvanic battery was applied over one pneumogastric in the neck. If the current was increased beyond this limit, the action of the heart became hesitating, and the patients became faint and dizzy. The current which produced these unpleasant sensations was still far short of that which would be able to excite muscular contractions; if applied over the phrenics, it might have strengthened the respiratory process, perhaps, but it was certainly not strong enough to excite an inspiratory act. The author knows of a case of opium poisoning in which a strong faradaic current, which was being applied at intervals to different parts of the surface, merely to rouse the patient, was suddenly applied over the phrenic in the neck. The current reached the pneumogastric, and, as it was strong enough to stop the heart, instant death was the result.

In face of these facts, the following conclusions seem justified: 1. Electric stimulation of the phrenic nerves should never be undertaken without the reflection that the current will at the same time reach the pneumogastrics. 2. Only mild currents should be applied, their effect upon the heart's action being carefully watched. 3. Especially should be avoided the sudden or careless application to the neck of a current sufficiently strong to produce pain or muscular contractions in other parts of the body. These conclusions having been stated, it will be a further object of this paper to inquire if there be not some varieties of poisoning in which the danger of cardiac depression from stimulation of the pneumogastric is so great as to contra-indicate any attempt to apply electricity to the phrenic. Different poisons affect the heart and the pneumogastrics very differently, materially altering their relations with each other. Take for an instance digitalis, which stimulates *both* the heart and the pneumogastrics, thereby slowing the beat even while increasing its force; take, then, belladonna, which stimulates the heart and yet paralyzes the pneumogastrics, giving us, like digitalis, increase in force, but with a more rapid beat from diminished pneumogastric restraint. Contrast with these the inhalation of chloroform, which, being brought in the blood immediately from the lungs to a contact with the lining membrane of the heart, exerts a direct paralyzing influence upon that organ while the pneumogastrics are still unaffected and present their normal irritability to any stimulus. Here we have, with digitalis, both heart and pneumogastrics stimulated; with belladonna, heart stimulated and pneumogastrics paralyzed; with chloroform, heart paralyzed, pneumogastrics normal. We know that the heart, by its inherent impulse to beat again, resists the tendency of the pneumogastrics to keep it in diastole, and we see in health a balance of power kept up between these two opposing forces. We know that in health a moderate current applied to the pneumogastric will slow the heart, and even cause it to pause in diastole, without doing harm. But let us imagine a condition like sudden heart failure from chloroform, where the heart is depressed while the pneumogastric is still active. The balance of power is now disturbed, for the pneumogastric is in a condition to conduct inhibitory stimuli as usual, while the enfeebled heart has not its usual strength with which to resist them. At such a moment, might not the heart be instantly stopped and paralyzed by a degree of pneumogastric stimulation which, under ordinary conditions, would only slow the heart by a few beats per minute?

It may not be inappropriate, at this point, to relate the circumstances under which the author's attention was first called to this subject. He had prescribed for a patient who was suffering from neuralgia; the mixture was to contain ℞ Tr. aconiti rad. (U. S.), ♏xl; syr. aurant. cort., ʒ iij; aq., q. s. ad. ℥ ij. M. Sig.: One teaspoonful dose, and repeat once at the end of an hour. The druggist by mistake left out the water and sent to the patient simply ♏xl of tr. aconiti rad. in ʒ iij of syrup. After the second dose had been taken, representing in all over ♏xx of aconite, the patient developed symptoms of poisoning. The surface was cold and clammy, and the extremities benumbed; the respiration was shallow and uncertain, and the pulse scarcely perceptible. The author at once administered large quantities of brandy, and called in Professor A. A. Smith to assist him. In view of the respiratory failure, Professor Smith proposed faradization of the phrenic nerves. This the author objected to, knowing that a current so applied would necessarily affect the pneumogastrics as well as the phrenics, and fearing that even a slight depressing influence might stop a heart which was already acting so feebly. The patient fortunately recovered; but the case induced the author to study the subject more carefully, and finally to undertake a series of experiments on dogs poisoned with aconite, chloroform, ether, and opium, in order to ascertain whether, under these not uncommon conditions, the danger of cardiac paralysis from stimulation of the pneumogastric would be much increased or not. The mode of experiment was as follows:

First Step.—A strong, healthy dog was etherized, and a Marcy's cardiometer connected with the left carotid artery. This can be done without shedding twenty drops of blood, and the same incision exposes the pneumogastrics.

Second Step.—A faradaic battery was connected with both pneumogastrics by wire-hook electrodes, and adjusted so as to give a current just strong enough to slow the heart's action perceptibly, without otherwise disturbing it. The electrodes were then removed from the pneumogastrics and kept ready to be reapplied later in the experiment.

Third Step.—The drug to be experimented upon was administered, and the cardiometer watched for evidences of cardiac failure.

Fourth Step.—As soon as the cardiometer gave evidence that the heart was becoming weak, the faradaic current was passed to the pneumogastrics in the same strength which had, in step No. 2, been found to merely slow the heart. The cardiometer was then watched to measure the effect upon the heart. This plan of experiment seems calculated to show quite accurately whether the poisoned heart is liable to be paralyzed by a degree of stimulation of the pneumogastric which the healthy heart was perfectly well able to stand before the poison was given. The experiments, in detail, were as follows:

Experiment No. 1 with Aconite.—Dog etherized. Cardiometer connected. Battery adjusted to a strength which merely slowed the heart. One drachm of tincture of aconite was then poured down the dog's throat. After eight minutes, heart acting feebly and intermittingly. One minute later, applied battery to pneumogastrics. Expected to see the heart stop entirely, or at least show signs of great depression. Was surprised to see no effect produced upon the heart by stimulating the pneumogastrics. Increased the strength of the current until the full force of the battery was reached, but still with no effect upon the heart. This proved that the pneumogastrics were paralyzed by the aconite, and could no longer be excited to exert any inhibitory influence upon the heart.

Experiment No. 2 with Aconite.—This was a repetition of No. 1, with the same result. As soon as the heart showed evident signs of weakness from the aconite, the pneumogastrics were found to be so paralyzed that no current applied to them, however strong, had any effect upon the heart.

Experiment No. 3 with Aconite was a repetition of Nos. 1 and 2, with the same result.

Deductions.—Experiments go to show that the tendency to cardiac paralysis from stimulation of the pneumogastrics is *not* increased in aconite poisoning. Indeed, in the later stages of poisoning there is *no* danger in stimulating the pneumogastrics, for they are so paralyzed that no current applied to them has any effect upon the heart. In the treatment of aconite poisoning, therefore, the application of electricity, with proper care, to the phrenic nerve, is perfectly safe.

N. B.—This result shows that the treatment advised by Professor A. A. Smith, in the author's case of aconite poisoning, would have turned out all right, in spite of the objection which the author then made to it.

Experiment No. 1 with Chloroform.—Dog etherized. Cardiometer connected. Battery adjusted to a strength which merely slowed the heart. A sponge with chloroform on it was now substituted for the one with which ether was being administered. Chloroform was administered rapidly and in such quantity that poisoning ensued at once, the blood-pressure falling after a few seconds, and the heartbeat becoming feeble and irregular. The chloroform was now taken away and the faradaic current was applied to the pneumogastrics. The effect was instantaneous—the heart stopped in diastole and did not beat again.

Experiment No. 2 with Chloroform.—Performed in the same way as No. 1. When the current was applied to the pneumogastrics, the heart did not stop at once. It paused in diastole for a few seconds and then commenced to beat again, but very feebly. The blood-pressure did not again rise to more than half the normal, and the heart stopped finally after six minutes.

Experiment No. 3 with Chloroform.—Same mode of experiment. The heart stopped instantly when the current was applied to the pneumogastrics, exactly as it did in Experiment No. 1.

Deductions.—When heart failure occurs early in chloroform administration, the pneumogastrics are still normally excitable. At such a moment, even a very mild electric current applied to the pneumogastrics will instantly paralyze or fatally depress the heart. It is therefore eminently dangerous to apply electricity to the neck of a patient with heart failure from chloroform. The application over the phrenic of a current strong enough to cause contraction of the diaphragm would be almost certain to cause fatal cardiac depression.

Experiment No. 1 with Ether.—Dog etherized. Cardiometer connected. Battery adjusted to a strength which merely slowed the heart. The ether was then crowded until respiration was paralyzed and asphyxia ensued. The faradaic current was then applied to the pneumogastrics, but produced no more effect upon the heart than it did in the earlier stage of etherization, before the ether had been pushed to the extent of inducing asphyxia.

Experiment No. 2 with Ether.—This was the same as Experiment No. 1, and gave the same result.

Deductions.—That in asphyxia from etherization the heart can stand stimulation of the pneumogastrics as well as it can in health. Therefore it is safe to stimulate the phrenic nerve in ether poisoning with a current as strong as the patient could bear under normal conditions.

N. B.—The difference between the results obtained in chloroform poisoning and those obtained in ether poisoning is due to the fact that chloroform is a direct cardiac depressant, while ether does not depress the heart. If a dog is etherized, the trachea opened, and a bellows inserted so that respiration can be carried on artificially by the experimenter, then ether can be administered by means of a sponge fitted over the supply-opening of the bellows. In this way respiratory paralysis is rendered impossible, and the effect upon the heart alone can be studied. Under these circumstances ether may be administered for hour after hour, and in almost any quantity, without depressing the heart; if, however, a sponge with chloroform on it is substituted for the ether, the heart soon becomes weak and the blood-pressure falls rapidly. Changing back to ether stimulates the heart again to its original force, and changing still again to chloroform will again depress it. This proof that chloroform is essentially a cardiac depressant, and that ether is not, is as satisfactory as experimental proof could be.

Experiment No. 1 with Morphine.—Dog etherized. Cardiometer connected. Battery adjusted to a current which merely slowed the heart. One grain of morphine injected hypodermically and ether stopped. As soon as the heart became rapid and feeble and the breathing very slow, the faradaic current was applied to the pneumogastrics. No effect upon the heart. This proved that in opium poisoning, when the symptoms of poisoning are well marked and the pulse rapid and feeble, the pneumogastrics are paralyzed, and stimulation of them will not slow or depress the heart.

Experiments Nos. 2 and 3 with Morphine gave the same results as No. 1.

Deductions.—That in opium poisoning, when the heart is rapid and feeble, there is even less danger than in health of cardiac paralysis from stimulation of the pneumogastrics. It is, therefore, safe to carefully apply electricity to the phrenic nerve in opium poisoning.

When morphine, injected hypodermically, accidentally gets into a vein, sudden and alarming collapse is apt to follow. Under these circumstances, the morphine, thrown directly into the circulation, reaches the heart all at once and without much dilution in the blood. It must, therefore, exert a benumbing effect upon the heart itself for some time before it has reached the pneumogastrics in sufficient quantity to paralyze them. As this association of feeble heart with pneumogastrics still normal resembles the condition encountered in sudden heart failure from chloroform, the author undertook the following experiment:

Experiment with Morphine injected into a Vein.—Dog etherized. Cardiometer connected. Battery adjusted to a current which merely slowed the heart. Then half a drachm of Magendie's solution of morphine was injected into a small vein in the neck. The blood-pressure at once fell one half, and the respiration almost ceased. The faradaic current was now applied to the pneumogastrics. The heart stopped almost as suddenly as in the case of chloroform poisoning, but not so completely. It still continued to beat feebly for a minute or more, but then stopped.

Experiments Nos. 2 and 3 with Morphine injected into a

Vein gave substantially the same results as Experiment No. 1. In neither case was the heart stopped by the application of electricity to the pneumogastrics, but in both instances it received a shock from which it did not rally, and beneath which it finally sank at the end of a minute or two.

Deductions.—When morphine is injected into a vein, the heart is easily depressed by electricity applied to the pneumogastrics. It would *not*, therefore, be safe to faradize or galvanize the phrenic in this condition.

In conclusion, the views expressed in this paper may be summarized as follows:

1. Electricity *can not* be applied clinically in such a way as to stimulate the heart, literally speaking. In cases, however, where the heart is rapid, without much impairment in force, a mild current might be carefully applied over the pneumogastric in such a way as to restore the normal rhythm, and so increase the general efficiency of the heart's action. Cases are rare, however, where this would be indicated, rapidity and irregularity of the heart's action being generally associated with such feebleness as would contra-indicate any stimulation of the pneumogastric.

2. The application of one pole in the neck and the other over the præcordial space directs the current to the pneumogastric nerve, and retards the heart instead of stimulating it. A strong current applied in this way may stop the heart and kill the patient instantly.

3. An electric current applied over the phrenic nerve necessarily stimulates the pneumogastric at the same time. This measure, therefore, always threatens as much in the way of cardiac depression as it promises in the way of respiratory stimulation.

4. Liability of the heart to be stopped by pneumogastric stimulation is not increased in aconite, ether, or opium poisoning. It is, therefore, permissible to cautiously apply electricity over the phrenic nerve in these conditions.

5. In heart failure from chloroform, and when morphine has been injected into a vein, the heart may be stopped by even a slight current applied to the pneumogastrics. The application of electricity over the phrenic is, therefore, strongly contra-indicated under those conditions.

6. And, finally, it is emphasized that under no circumstances should a current strong enough to contract muscles elsewhere in the body be suddenly or incautiously applied over the phrenic or pneumogastric, or anywhere in the neck.

HOSPITAL RECORDS;

WITH A DESCRIPTION OF A NEW SYSTEM.

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The object of clinical records in hospital practice is twofold. First, the protection of the physician; and, second, the preservation of clinical facts for future study and publication.

Many valuable histories are lost through want of a proper method. In hospitals where regular registrars are employed, this may not be the case; but few American hospitals support such an officer. The general method is to require the interne to transcribe the histories from his ward-notes into bulky volumes. This is regarded as drudgery by the interne, who is thus compelled to make two writings of each case, and to consume in clerical work time that could be more profitably employed at the bedside or his books. In consequence, the records are apt to be imperfectly kept. In other hospitals, clinical sheets are suspended at the beds, but the prescriptions are written in a ward-book, so that neither sheet nor book contains the complete record. In still other institutions, only the prescription-book is in regular use, notes of interesting cases being made on random slips of paper, which become lost; or, the interesting features being developed late, and the earlier notes having been neglected, it is deemed useless to commence the record. Thus many cases go unrecorded.

Again, when many patients are on hand, the ordinary ward-book for prescriptions is inconvenient. Memory may, be at fault concerning the exact order for a given patient and both time and patience are then required in searching through the back leaves of this book.

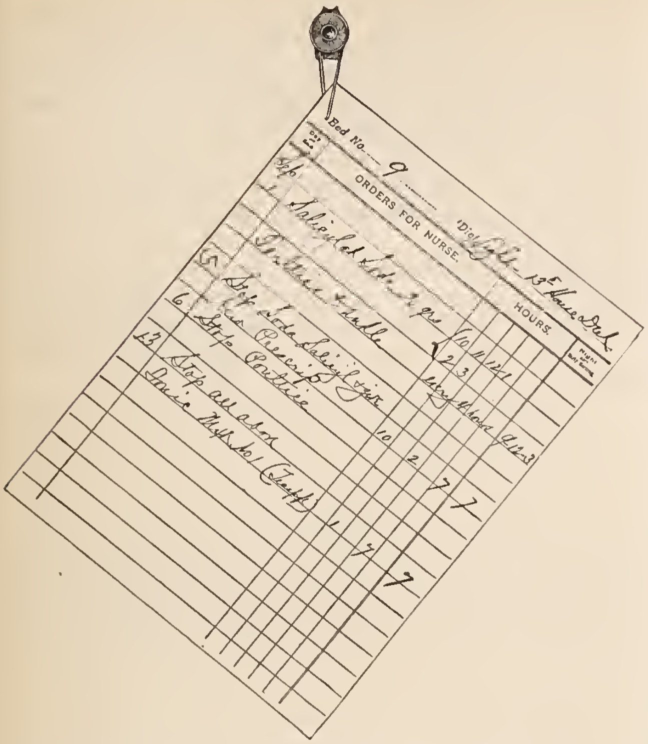
Impressed by the above-mentioned difficulties, after several years of constant hospital practice, the writer devised the following plan, whose general features are described at the close of the article under the head of "General Remarks." He has now used this system constantly for the last three years in a service of from forty to ninety hospital patients daily, and, while his estimate of its value can not be impartial, it has proved so convenient, and has met with such appreciation from house physicians, sisters, and nurses, that he ventures to give it publication.

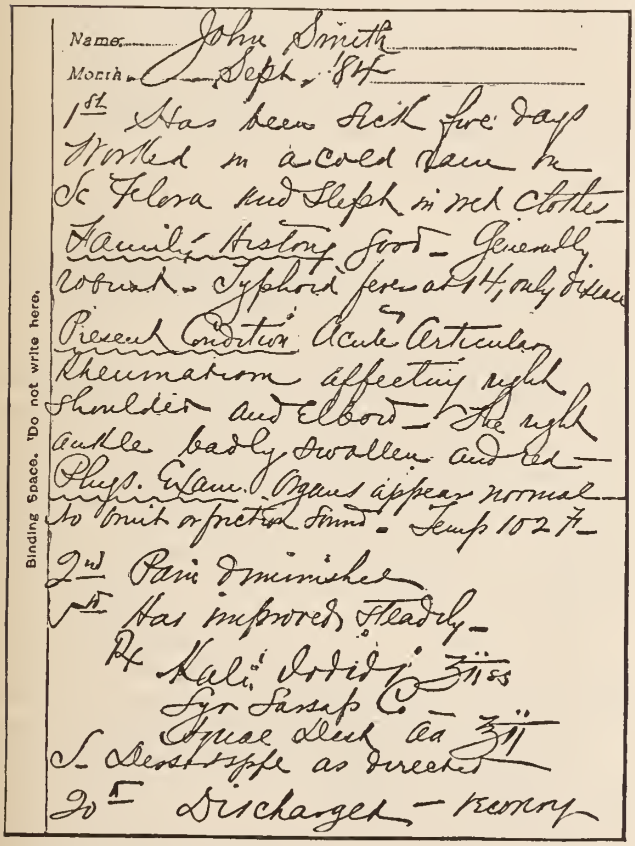
The appliances consist of a pin for each bed, on which to suspend the blanks, a pad of blanks, covers, a steel blow binder, and large envelopes for filing.

The pin, an important adjunct, sold in the shops as the "bachelor's button," is a combination of a safety-pin and button. The button portion rests in the bottom groove of the bed card-rack (or other available place), while the pin portion receives the blanks holding them in their proper order, yet allowing all the play that is needed.

The blanks are sufficiently described in the cut, which is of half their exact size. They are bound together in pads of fifty or seventy-five, like memorandum-blocks. The face of the blank ruled in black is intended for clinical notes and formal prescriptions. The reverse, ruled in red, is intended only to hold the orders for the nurse, or the one who administers the medicine. For clearness of description it will be best to ignore, for the present, the "Orders for Nurse" side. There is then for use in the ward, instead of the ordinary ward-book, a pad of blanks. At each patient's bed, hanging from the bed card-rack, is the suspensory pin. Writing, with stylographic or other pen, our first clinical notes of the case before us, we tear the blank from the pad, run the pin through the black spot in the right-hand upper corner, replace the pin, and the blank is then seen to be suspended with its face or notes toward the wall. At the next visit, lifting blank and pin together from the rack and resting the blank on our pad, we make additional notes. But, if the blank should be full, we take a fresh one and file on top of the first, its face also being toward the wall.

Now, supposing a new blank to be used every day for one week, we would have seven blanks hanging with their faces to the wall, all held in proper relative position by the clasp-pin, and we may read the seven days' history in consecutive order by simply taking pin and blanks together from the rack.




Binding Space. Do not write here.

Name John Smith
Month Sept, '84
1st Has been sick five days
Worked in a cold damp cellar and slept in wet clothes —
Family History good — Generally robust — Typhoid fever at 14, only disease
Present Condition: Acute Articular Rheumatism affecting right shoulder and elbow — The right ankle badly swollen and red —
Phys. Exam. Organs appear normal — No murmur or friction sound — Temp 102 F —
2nd Pain diminished
5th Has improved steadily —
℞ Kalii Iodidi ℥ii ss
Syr Sarsap Co.
Aquae Dest aa ℥ii
S. Dessertspoonful as directed
20th Discharged — Recovery

Supposing, again, upon the seventh blank, room remains for further notes, so that, on the following day, a new blank is not required. In this case, without removing the seventh one from the pin, we rest it upon the pad while writing, the six other blanks, together with the pin, being allowed to hang over the top of the pad out of the way, or pushed to one side.

When a formal prescription is required, one that must be taken to the apothecary, it is written on the side under consideration. The blank is returned with the medicine, and is filed on the pin by the nurse. Should the new prescription be written on a blank already filed, it may be removed from the pin for transmittal to the druggist, or be sent without removal, as is more customary.

But in hospital practice there are comparatively few formal prescriptions. Each ward has its locker containing the ward mixtures and more simple medicines, which may be administered by an intelligent nurse.

This brings us to the consideration of the reverse or side ruled in red, containing the "Orders for Nurse." The cut is almost self-explanatory. The notes or prescription being written on the face, the blank is reversed and the "orders" entered. Now, recalling that, when hanging, the face is toward the wall, it will be seen that the "Orders for Nurse" are toward the observer. These orders can be read at a glance without touching the blank, and serve as a ready reminder to the physician of each patient's treatment. This feature is particularly valuable when the wards are crowded. It is understood that every order is in force until repealed in writing. Thus, referring to the "Orders for Nurse" in the cut, the patient received the salicylate of soda every day at the hours indicated from September 1st to 5th, when it was stopped and a new prescription given. The poultices, however, were continued until the 6th.

The column marked "Night and Early Morning" permits the entry of night orders, and an order for the following morning that should be executed before the time for regular visit. Thus, September 13th the tonic was ordered (say at nine o'clock) to be given at 1 and 7 P. M. the same day, and at seven o'clock the following morning. Practically, however, there being but one night nurse for the whole hospital, the night orders should be written in a separate book or on a special slate.

Upon the patient's discharge, the blanks are removed from the pin, inserted between the leaves of a cover, and bound by means of an ordinary steel blow binder. The cover is of grayish tint, and contains name and description of patient, dates of admission and discharge, result, etc. (the ordinary bed-card items), thus making his personal history complete.

We have, then, his clinical record in book shape, made with only one writing.

The records are filed away according to the month of discharge—for example, the records of all patients discharged in September being placed in a large envelope marked "September." A complete index both of names and diseases is readily at hand in the ordinary hospital register. Opposite the given name or disease we have but to note the month of discharge, then turn to the corresponding envelope for the history of the case.

Brief Notes.—A large proportion of cases require but one blank. Cases on hand as long as six months, and calling for frequent notes, do not make a bulky volume. Should a history become large, however, it can be bound and filed away as Volume I, and Volume II be started.

Post-mortem notes, and any non-medical memoranda, are also written on these blanks. A temperature-chart is in use corresponding in size to the blank.

In binding, the column marked "Night and Early Morning" is covered. This can not be avoided, and is of little consequence.

As regards diet (see cut), light diet was given until the 13th, when it was changed to house diet.

The blanks, and all other appliances, can be obtained of Messrs. Hammond & Jones, Printers, Baltimore, Md.

One point in this system is, that the regular and necessary detail work of the ward is utilized in making a record. There is no labor lost, no second writing or copying. It is surprising what effect good mechanical arrangements and a fixed method have in stimulating the desire to record cases. Given a sheet of paper of regular size and shape, made familiar by constant use, and a knowledge that what is written will be preserved and may be of value, and we have a constant temptation to make full notes. True, the notes may be crude and disjointed, yet the physician may feel that the facts are all there, safely preserved, awaiting a time when he can leisurely look them over, arrange, and perhaps publish them. He has, in fact, a clinical library. The writer has a separate clinical history in neat book form of every patient admitted to hospital in Baltimore during the past two and a half years, and the records were preserved without special trouble. The *separate* feature is of special value, permitting easily the gathering together of like cases for comparison or for statistical purposes, and, again, making a ready memorandum for use when called upon to testify in court.

In the ward, this method permits the physician at any time to review the points of his case, this review, especially upon the patient's discharge, being interesting and instructive.

There is, moreover, no room left for dispute between the nurse and the patient, or between nurse and physician, as to what the latter has ordered, and, if there has been any failure of administration, the record will quickly indicate the one at fault.

Baltimore, *December 15, 1884.*

A CASE OF
HYPERMETROPIC STRABISMUS CONVERGENS, WITH CHOROIDAL ATROPHY, CURED BY GLASSES ALONE.

By F. C. RILEY, M.D.

Thinking that the somewhat unique features connected with the case herein reported might prove of interest to some of your readers, I have taken the liberty of presenting it to the profession. To dilate here upon the subject of strabismus in general is foreign to my present purpose, since the facts recorded establish a foundation from which general conclusions may be drawn:

J. R., aged ten, accompanied by his mother, consulted me in November, 1883, the latter affording the following history of the child's condition up to that time:

Has always been delicate. Had a severe attack of pertussis when three months old, from which he recovered but slowly.

About five years since had severe attack of measles. Scarlet fever, accompanied by diphtheria, nearly ended his career about one year and a half subsequently.

The mother also affirms that a squint has existed in the eyes—first one and then the other—since early infancy, but since the attack of measles referred to has been confined exclusively to the left eye.

A careful examination revealed the following conditions: Strabismus convergens (of the left) strongly marked; the eye turned at right angles to its fellow of the opposite side.

Rotatory motion of the head in attempting to view different objects.

By covering the right eye, the left or squinting eye moves slowly in position to "fix."

A turning of the head and body also occurs at the same time.

Vision in right eye equals $\frac{20}{50}$. Vision in left eye equals $\frac{20}{200}$. Ophthalmoscopic examination reveals hypermetropic astigmatism in each eye, and in the left eye a large circular patch of choroidal atrophy, having the region of the macula lutea as its center, and extending almost to the border of the disc on one side, and equally as far into the temporal half of the retina on the other.

The atrophy of the choroid in this eye accounts fully for the decrease in vision; and, as this eye has been the squinting one since the age of five, when the patient had measles, it is perhaps not an illogical deduction to conclude that the choroiditis occurred as a concomitant of that affection. Not being able to obtain as good vision as I deemed possible while the accommodative power was being exercised, I ordered atropine to overcome this interference.

With atropine, O. D. V. = $\frac{20}{20}$ + 1·25 Ds. ⬭ + 2 D. cyl., axis, 75°.

O. S. V. = $\frac{20}{70}$ +. No improvement with glasses in this eye.

The vision was, therefore, raised in the right eye by the use of atropine and the proper correcting-glass to the average normal standard—i. e., $\frac{20}{20}$, or 1.

Upon subsidence of the effects of the atropine, I again tested the vision and obtained the following: O. D. V. = $\frac{20}{20}$ + 1 Ds. ⬭ + 2 D. cyl., axis, 75°. As the left eye could not be improved by the use of a glass, it was left out of consideration so far as the treatment from a refractive basis was concerned.

For the right eye I ordered the combination that represented his manifest hypermetropic astigmatism, and for the left simply a plane-glass. I might also state that the combination alluded to afforded him excellent vision for near work, such as writing, reading, etc.

Since the vision in the left eye was so slight, and the choroidal atrophy existing necessitated eccentric fixation in order to obtain even the slightest amount, it was deemed inadvisable to attempt a correction of the ametropia in this eye.

With a plane glass before the left eye, I depended upon the patient suppressing what little he saw with it, and upon his relying wholly upon his right eye.

Whether the squint would be completely relieved by such a procedure was uncertain. It was determined, therefore, not to operate, although it was strongly urged by the parents, until the glasses had been in use a sufficient length of time to demonstrate the futility of anticipating a cure through their agency.

I fully believed that the left eye would eventually act in unison with the right without a tenotomy, although it was still looking at right angles to the latter after the effects of the atropine had subsided. Subsequent developments proved the correctness of this hypothesis, and I was much gratified to think a too hasty tenotomy had not been performed.

A careful observer to-day would not notice the slightest deviation of the previously squinting eye. The harmony of the oculo-myodynamical conditions is complete in every respect, and the patient has enjoyed perfect vision for a year and a half.

That a tenotomy was unnecessary the sequel abundantly proves. Had the operation been performed, owing to the fact that the left eye was practically sightless, the unhappy results of an over-correction might not have occurred; but in many cases of simple hypermetropic squint such a finale might be expected.

When it is possible to relieve the squint by correcting the refractive error only, it should always be done.

An over-correction, with its attending annoyances, is a reproach to the over-zealous tenotomist. I very seriously doubt if a case of hypermetropic strabismus should ever, or under any circumstances, be operated upon until recourse has been had to atropine, and the amount of the refractive error accurately measured and corrected. The correcting-glass in each case should then be worn for a sufficient length of time to prove, beyond the shadow of a doubt, that it is insufficient to maintain an equilibrity of convergence.

Under such circumstances a tenotomy can be resorted to with perfect safety and certainty of success.

105 MADISON AVENUE.

A CASE OF OPIUM POISONING

SUCCESSFULLY TREATED WITH

ATROPINE AND CAFFEINE.

BY CHARLES N. DIXON JONES, B.S., M.D., BROOKLYN,
LATE HOUSE SURGEON TO THE BROOKLYN HOSPITAL.

THE following case is presented with the belief that it is of sufficient interest to be worthy of record:

Gertie E., aged eighteen months, was brought into the Brooklyn Hospital on the morning of November 27, 1883, with all the symptoms of acute opium poisoning.

It was learned on inquiry that, two hours previously, the child had eaten six pills, each containing calomel two grains, opium one grain (the pills were chewed by an older brother and then given to his sister, who swallowed them). Soon after, it was noticed that the child became very sleepy. A physician was sent for, who administered mustard in warm water; slight vomiting followed; it was then given some strong coffee, which was retained on the stomach.

When admitted to the hospital, she was in a comatose condition, the pupils were insensible to light, and contracted to a pin-point in size. The respirations were infrequent, shallow, and so feeble as to be barely perceptible. The pulse was small, weak, and rapid. The face was cyanotic, extremities cold, and deeply congested.

Believing that the full emetic effect of the mustard had not been obtained, the indications to be met were: First, to overcome the immediate tendency to failure of respiration; second, the evacuation of the stomach; and, third, the administration of respiratory stimulants and the recognized antidote to opium.

A hypodermic injection containing $\frac{1}{240}$ of a grain atropinæ sulph. was accordingly given. As no immediate effect was produced, this was followed in ten minutes by another containing $\frac{1}{120}$ of a grain, with the effect of increasing the force and frequency of the respirations, and slightly enlarging the pupil.

In the mean time I procured a stomach-pump, consisting of a flexible catheter (Nélaton's) twenty inches in length and one third of an inch in diameter, connected, by means of a small piece of glass tubing, with a piece of rubber tubing three feet in length, and provided with a funnel.

The tube was introduced into the stomach without difficulty. Lukewarm water was then slowly poured into the tube through the funnel. The washing was repeated three times before the fluid returned clear. The fluid removed from the stomach was found to contain a dark curd, consisting of the coffee which the child had swallowed, also the coatings, and several fragments of the pills which she had eaten. After each washing it was necessary to remove the tube and suspend the process, owing to the cyanotic condition of the patient.

The child was now placed in bed. The record taken at this time showed that the pulse was very rapid and feeble (with the stethoscope); the heart was beating at the rate of 160 a minute. The respirations were 6 per minute, superficial and gasping. In addition to the internal medication, external stimulation by means of hot spongiopilin applied over the præcordial region, hot-water cans to the extremities, and vigorous friction of the chest, legs, and arms was kept up, and it was only after four hours unremitting care that reaction was established. Artificial respiration was practiced from time to time, when it was thought that life was in imminent danger from the failure or insufficiency of natural respiration.

At 2 P.M. her condition had somewhat improved. Hypodermic injection of atropine sulphate, gr. $\frac{1}{120}$, was administered. A warm enema of olive-oil and soap-suds was given. No effect.

At 2.50 P.M., pulse 130, respiration 9.

At 3 P.M., citrate of caffeine, gr. j, spir. ammoniæ aromat. and brandy, āā ♏v, were administered.

At 3.30 P.M., caffeine repeated. Pulse 130, respiration 10.

At 4 P.M., caffeine repeated. Patient is startled when spoken to in a loud voice. A deadly pallor is noticeable about the alæ of the nose, the eyelids, and the margins of the auricles; other parts of the face congested. Later she showed a marked tendency to rub these parts. I am unable to explain the physiological phenomenon producing this appearance, but it is probably due to vaso-motor spasm, the drug having a selective affinity for the nerves supplying this particular region.

At 4.40 P.M., patient passed urine; small in amount and highly-colored.

At 6 P.M., pulse 130, respiration 11.

At 7 P.M., caffeine, gr. ij.

At 8.10 P.M., hypodermic of atropine, gr. $\frac{1}{120}$.

At 9.50 P.M., respiration 14, pulse 140. From this time she rapidly improved until 12 M., when she began to show signs of returning life.

At 11.50 P.M., pulse 120, respiration 16. Bowels moved.

28th.—At 4 A.M., pulse 130, respiration 16.

At 6 A.M., pulse 120, respiration 18. The respirations are now regular for the first time; pulse is still rapid, but stronger. She now begins to show signs of returning consciousness.

During the day the child was very sleepy, but could be aroused to take nourishment. In the afternoon she was as bright and cheerful as if she had not passed through the terrible ordeal of opium poisoning. The after-treatment was the continuation of the milk diet, with a small amount of brandy, until evening, when she was discharged perfectly recovered.

It will be noticed in the history of this case that the first hypodermic injection of atropine was given at 11.45 A.M., the second at 11.55, and the third and fourth at intervals up to 8.10

P. M. The total quantity of sulphate of atropine given was about $\frac{1}{35}$ of a grain. The quantity of citrate of caffeine used was five grains.

163 De Kalb Avenue.

Book Notices.

The International Encyclopædia of Surgery. A Systematic Treatise on the Theory and Practice of Surgery by Authors of Various Nations. Edited by John Ashhurst, Jr., M. D., Professor of Clinical Surgery in the University of Pennsylvania. Illustrated with Chromo-lithographs and Woodcuts. In six volumes. Vol. V. New York: William Wood & Co., 1884. Pp. xxxvi–1207.

This volume contains fourteen articles; seven of them by American and the remainder by English authors. The first is on injuries of the head, by Nancrede, and is followed by one on malformations and diseases of the head, by Treves. Taken together, the two make a very complete study of the subject, although both occasionally deal with the same thing, *e. g.*, erysipelas of the scalp and necrosis of the skull. The chapter on tumors of the vault of the skull is worthy of study. The next article, on the eye, by Williams, of Cincinnati, seems meager in comparison with the magnitude of the subject, especially as fifteen pages of it are taken up with the general anatomy of the organ. The article on the ear, by Buck, is more exhaustive. The same rather artificial division of subjects seen in the case of the head is more noticeable in the articles on the throat. Lefferts takes diseases and injuries of the nose and its accessory sinuses; Heath takes those of the mouth, fauces, tongue, palate, and jaws; and Solis-Cohen takes those of the air-passages; while Macleod comes in between with the surgery of the neck; Post with that of the face, cheeks, and lips; and Kingsley with that of the teeth and adjacent parts, including tumors of the jaw and defects of the palate. The simple objection to this arrangement is that it is impossible for the different authors not to trench upon each other, and that the reader does not know just where to look for what he wants. It is simply a question of arrangement, however, for between them all the whole subject is thoroughly handled, and the index to the volume is a good one.

Perhaps the most interesting article in the volume is Mr. Henry Morris's, on injuries and diseases of the abdomen. The recent advances in abdominal surgery make very enjoyable reading, and the author has collected a great deal of valuable matter, especially with regard to suture of the intestine and artificial anus. The subject is a large one, and it is not exhausted in the three hundred pages devoted to it. A short article on hernia, by Mr. John Wood, closes the volume. On the whole, this installment of Dr. Ashhurst's great work sustains the reputation gained by its predecessors. With the next volume the encyclopædia will be finished.

BOOKS AND PAMPHLETS RECEIVED.

De l'aphasie et de ses diverses formes. Par le Dr. Bernard, ancien interne en médecine et en chirurgie des hôpitaux de Paris, etc. Paris: Bureaux du "Progrès médical," 1885. Pp. 270.

Transactions of the American Surgical Association. Volume the Second. Edited by J. Ewing Mears, M. D., Recorder of the Association. Philadelphia: Printed for the Association, and for sale by P. Blakiston, Son & Co., 1885. Pp. xl–531.

Lectures on Diseases of the Nervous System, especially in Women. By S. Weir Mitchell, M. D., Member of the National Academy of Sciences, etc. Second Edition, Revised and Enlarged, with Five Plates. Philadelphia: Lea Brothers & Co., 1885. Pp. 287. [Price, $1.75.]

Manual of Nervous Diseases, and an Introduction to Medical Electricity. By A. B. Arnold, M. D., Professor of Diseases of the Nervous System and Clinical Medicine, College of Physicians and Surgeons, Baltimore. With Illustrations. New York: J. H. Vail & Co., 1885. Pp. vii–170.

The Year-Book of Treatment for 1884. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co., 1885. Pp. 316.

Typhoid Fever and Low Water in Wells. By Henry B. Baker, M. D., Lansing, Mich. [Reprinted from the "Annual Report of the Michigan State Board of Health" for the Year 1884.]

Western Reserve University, Medical Department, Cleveland, O. Announcement, 1885–'86.

Jahresbericht des Verwaltungsrathes des Deutschen Hospitals und Dispensary in der Stadt New York, 1884.

Controlling Sex in Generation, etc. By Samuel Hough Terry. New York: Fowler & Wells, 1885. Pp. 147.

The Physiological Effects and Therapeutical Uses of Hydrastis. By Roberts Bartholow, A. M., M. D., LL. D., etc. [Reprinted from "Drugs and Medicines of North America."]

Should Experiments on Animals be Restricted or Abolished? By Robert Meade Smith, M. D., etc. [Reprinted from the "Therapeutic Gazette."]

Methods of studying the Physiological Action of Drugs. By Robert Meade Smith, M. D., etc. [Reprinted from the "Therapeutic Gazette."]

Pelvic Hæmatocele, with a New and Successful Treatment. By Louis B. Couch, M. D. [Reprinted from the "Chironian."]

Kussmaul's Coma. By Robert Saundby, M. D., etc. [Reprinted from the "Birmingham Medical Review."]

Proceedings of the Twenty-ninth Annual Session of the Kentucky State Medical Society.

Report of Committee on School Hygiene in Tennessee. By Daniel F. Wright, M. D., etc. [Reprinted from the Second Report of the State Board of Health.]

Vital Statistics in Tennessee. A Report by J. D. Plunket, M. D., etc. [Reprinted from the Second Report of the State Board of Health.]

Experimental Researches on Cicatrization in Blood-vessels after Ligature. By N. Senn, M. D., of Milwaukee, Wisconsin. [Reprinted from the "Transactions of the American Surgical Association."]

The Thermic Phenomena in Contraction of Mammalian Muscles. By Robert Meade Smith, M. D., etc. [Reprinted from the "Archives of Medicine."]

The Oleates. Further Investigation into their Nature and Action, etc. By John V. Shoemaker, M. D., etc. [Reprinted from the "British Medical Journal."]

The Treatment of Diseases of the Skin by Novel Means and Methods. By John V. Shoemaker, M. D., etc. Philadelphia, 1884.

The Spinal Arthropathies (a Clinical Report of Six Cases of Charcot's Joints). With Illustrations. By A. Sydney Roberts, M. D., etc. [Reprinted from the "Medical News."]

The Cure of Writer's Cramp. By A. De Watteville, M. A., M. D., B. Sc., etc. [Reprinted from the "British Medical Journal."]

The Physiological Action of Cocaine on the Common Frog, with Special Reference to its Action on Organs and Tissues. By Hermann M. Biggs, M. D., New York. [Reprinted from the "Journal of the American Medical Association."]

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, APRIL 4, 1885.

A LIFE-SAVING LESION.

If it is true that "of our pleasant vices do the gods make whips to scourge us," it is consolatory to reflect that our minor physical ills ofttimes ward off more melancholy visitations. The helping hand lent the incessant brain-worker by an attack of migraine is a familiar example, but who would ever have imagined that good—even to the saving of life—might come from surgical emphysema? Yet such is the optimistic view taken by Dr. Henry R. Silvester, who contributes to a recent issue of the "Lancet" an article entitled "On Life-saving from Drowning by Self-inflation." Whatever dangers the financier may conjure up at the mention of the term, it is evident that, from a life-saving point of view, inflation is not altogether abominable. Dr. Silvester's plan is, that a person in danger of drowning should make a small puncture—"not larger than would allow, for instance, of the passage of an ordinary blow-pipe"—in the mucous membrane of the mouth at the reflection of the cheek from the lower jaw, at a point about opposite the first molar tooth; and that, shutting his mouth and holding his nose, he should make a number of forcible blowing efforts, thus distending the subcutaneous spaces of the neck with air enough to make him float.

Who can doubt that a person who had subjected himself to this process would outsail the dusky maiden who, having donned a patent inflatable life-preserving suit, to guard against casualties, was gently wafted out into the Gulf of Mexico, bearing the parson as a passenger, when, by all the rules of propriety, she ought to have been baptized in the Mississippi River? The operation, says the author, is capable of being "performed without assistance in a moment, under the most adverse circumstances, and by the most ignorant, if once instructed in it, and without danger or pain, and suitable alike for the roughest sailor or the most delicate female." Some of these statements are afterward modified. For instance, the operation is said to be "*almost* painless," and some rude apparatus is admitted to be necessary—"in an emergency the point of a penknife, or even a sharp-pointed splinter of wood." Now, it is well known that a man in danger of drowning is *nunquam non paratus;* therefore he will always have so trifling an implement as a penknife or a splinter of wood ready. We would suggest, however, that it may take two hemispheres to perfect this neat scheme, and hint that ours is a country where nothing that can be done by machinery is ever done by ordinary appliances. Let Dr. Silvester ponder the "amniotome"—that beautiful invention of one of our countrymen! When we remember that "Lord" Timothy Dexter made a fortune by sending a cargo of warming-pans to the torrid zone, what may we not forecast as the brilliant future of that device which none but specialists in rupturing the membranes have thus far esteemed at its true worth? Henceforth it need never be said of a man equipped with the "amniotome," and "once instructed" in Dr. Silvester's plan, that he

"ever, as the minutes flew,
Entreated help or cried 'Adieu.'"

SALT.

From our familiarity with the value of salt as a condiment, and with its utility in the preservation of meat, it may readily occur to us that there are still other applications of this substance that are worthy the attention of physicians and sanitarians.

The unquestioned benefit derived from salt-water baths in many chronic affections is undoubtedly due in part to the circumstances attending their use. The summer trip to the seaside in August, which appears to be almost a fashionable necessity, in very many cases yields a grateful interest on the investment, in the way of renewed health and vigor, except when indulgence in the varied dissipations of the prominent seaside resorts counterbalances the good that would otherwise accrue. The fresh air, the out-door life, the very exercise of bathing, contribute in a measure to the end attained; but the salt itself exercises an influence that is not to be overlooked, as it stimulates the skin, quickens the circulation, and often appears to promote the activity of the organic functions. When we consider that the water of the sea contains only about two per cent. of chloride of sodium, with a varying but extremely minute proportion of other ingredients, we see how easy a matter it is to imitate it at home when the summer vacation is over, and thus to prolong the benefit and comfort that have been derived from salt-water bathing. A cupful of salt to the basinful of water is all that is requisite for a sponge bath; while those who possess the luxury of a metropolitan bath-tub will find that a peck of salt to the tubful of water will yield a more prolonged enjoyment and corresponding benefit. No one, we suppose, but a believer in infinitesimals would pretend that the minute quantities of the other chlorides, or of the sulphates and carbonates found in sea-water, exerted any appreciable effect on the economy, and the influence, such as it is, may be fairly attributed to the chloride of sodium alone.

The antiseptic properties of salt suggest a number of useful applications. In surgery and midwifery carbolic acid and corrosive sublimate have rendered great services, but at the same time their employment is not wholly without danger, although comparatively weak solutions are made use of. Salt, even in very strong solution, would be harmless, and might possibly replace the more active antiseptics in many cases. As a cleansing application to foul ulcers and wounds salt solutions have been used from the earliest times. In cases of indolent action, with large, pale, and flabby granulations, the astringent effect of the salt would doubtless prove of service, as well as in many cases of excessive mucous secretion.

There is yet another application of salt, and one that certainly merits more extensive investigation. We refer to the disinfection of night-soil and other sewage. In cities, a few handfuls of salt thrown daily into the water-closets, and an occasional handful thrown into the wash-basins, would go far, we believe, toward counteracting the noxious effects of the omnipresent sewer-gas, against which sanitary efforts have so long been directed. In the country a quart or more of salt used daily in the privy vaults would serve an equally useful purpose.

MINOR PARAGRAPHS.

LAPAROTOMY IN PROFESSOR BRAUN'S CLINIC.

In a recent number of the "Wiener medicinische Wochenschrift," Dr. Felsenreich publishes a report of a hundred cases of laparotomy, representing the operations done by Professor Braun during the period from 1879 to 1883. Of these operations, sixteen were myomotomies, with ten recoveries; and seventy-four were ovariotomies, of which sixty ended in the recovery of the patients. On recalling the facts that all the operations were performed in the public lecture-room, and that the after-treatment was conducted in a large general hospital, the patients being almost invariably in an unpromising physical condition, these statistics will not appear so bad as at first sight. It is worth noting that Braun always performs a laparo-hysterotomy for removing solid tumors of the uterus, and, moreover, that he secures the stump by the extra-peritoneal method.

ALEXANDER'S OPERATION.

As a fresh reminder that there is "nothing new under the sun," we read in a late number of the "Centralblatt für Gynäkologie" that M. Alquié suggested the operation of shortening the round ligaments, as a cure for prolapsus uteri, long before that idea had occurred to Alexander. Subsequently Aran thought of applying this same method to the cure of retroversion. Freund also is credited with having studied out the operation and performed it on the cadaver. The important point is that, while the procedure had occurred to others as a feasible one, Alexander was the first to put it into effectual practice. Whether or not the operation is called by his name, makes little difference.

MEDICAL FEES IN VIENNA.

According to the "Progrès médical," physicians are more numerous in Vienna than in any other city in Europe; there are ten times as many, in proportion to the population, as in London. This implies a dismal prospect for the younger men, who must be content with very modest fees. One practitioner (whose name is not mentioned) is credited with forty thousand dollars a year, but the rest "*ont tout lieu de désespérer.*" There is a great deal of complaint against the vast system of medical charities, which are extended indiscriminately and are taken advantage of by patients who are amply able to pay a physician.

THE GORDON MEMORIAL HOSPITAL.

It is proposed to establish a hospital at Port Said, in Egypt, in memory of the English hero who devoted his life to that unhappy country. It is a good idea, and one that will meet with universal approval. The "Lancet" very aptly remarks in regard to this scheme: "It will be well if we are permitted to leave this one trace of benevolence in the region where we have left so many memorials which posterity will view with less complacency."

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 31, 1885:

DISEASES.	Week ending Mar. 24.		Week ending Mar. 31.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	4	0	0	0
Typhoid fever	10	6	5	1
Scarlet fever	97	14	92	19
Cerebro-spinal meningitis	7	7	7	6
Measles	138	21	154	18
Diphtheria	51	23	78	23

The following is a summary of the cases and deaths reported during the three months ending March 31, 1885: Typhus, 31 cases; 1 death. Typhoid fever, 111 cases; 40 deaths. Scarlet fever, 1,093 cases; 203 deaths. Cerebro-spinal meningitis, 72 cases; 65 deaths. Measles, 1,890 cases; 349 deaths. Diphtheria, 779 cases; 345 deaths.

The American Surgical Association will hold its next annual meeting in the Army Medical Museum building, at Washington, on Tuesday, Wednesday, Thursday, and Friday, April 21st, 22d, 23d, and 24th. According to the preliminary programme, papers will be read as follows: "The Field and Limitation of the Operative Surgery of the Human Brain," by Dr. John B. Roberts, of Philadelphia; "An Experimental and Clinical Study of Air Embolism," by Dr. N. Senn, of Milwaukee; "Nephrectomy: its Indications and Contra-indications," by Dr. Samuel W. Gross, of Philadelphia; "Nephro-lithotomy," by Dr. L. McLane Tiffany, of Baltimore; "The Healing of Arteries, in Man and Animals, after Ligature," by Dr. J. Collins Warren, of Boston; "The Immediate Cure of Fistula in Ano," by Dr. Stephen Smith, of New York; "The Ætiology of Tetanus," by Dr. P. S. Conner, of Cincinnati; "A Case of Cholecystotomy," by Dr. C. T. Parkes, of Chicago; "Some Points in the Surgery of the Hypertrophied Prostate," by Dr. J. W. S. Gouley, of New York; and "Phosphorus Necrosis: its Causes, Treatment, and Prevention, with Reports of Cases," by Dr. J. Ewing Mears, of Philadelphia.

The Denver Medical College held its annual commencement exercises on Thursday, March 26th, and graduated a class of six candidates. Professor Charles Denison delivered a remarkably forcible address.

M. Dujardin-Beaumetz, says the "Union médicale," has been made an officer of the Legion of Honor.

The University of Vienna.—The "Medical Times and Gazette" announces the promotion of Dr. Anton Wölfler, Dr. Hofmopl, Dr. Ultzmann, and Dr. Englisch to professorships.

A Female Candidate for the License to Practice is credited by the "Medical Times and Gazette" with having written in her examination papers: "Bleeding from the nose is neither Venus nor artillery; it is caterpillary." Is our contemporary sure that this did not occur in the country where most of the colleges do not require an entrance examination?

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 22, 1885, to March 28, 1885:*

Taylor, M. K., Major and Surgeon. Granted leave of absence for one month, to take effect about April 15th. S. O. 46, Department of the Missouri, March 21, 1885.

Havard, Valery, Captain and Assistant Surgeon. Leave of absence extended one month. S. O. 65, A. G. O., March 21, 1885.

Raymond, H. I., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Gaston, California. Post Surgeon. S. O. 30, Department of California, March 20, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending March 28, 1885.*

Battle, K. P., Assistant Surgeon. To proceed to Memphis, Tenn., for temporary duty. March 27, 1885.

The Death of Professor Frerichs is announced in the "Medical Times and Gazette" as having taken place in Berlin on the 14th of March. The deceased was best known to the profession in this country by his advocacy of the doctrine that uræmia is due to the formation of carbonate of ammonium from the decomposition of the urea retained in the blood.

Society Meetings for the Coming Week:

Monday, *April 6th:* New York Academy of Sciences (Section in Biology); Brooklyn Anatomical and Surgical Society (private); Medico-Chirurgical Society of German Physicians, New York; Morrisania Medical Society, New York (private); Chicago Medical Society (annual); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; St. Albans, Vt., Medical Association (annual).

Tuesday, *April 7th:* New York Obstetrical Society (private); New York Neurological Society; Buffalo, N. Y., Medical and Surgical Association; Ogdensburg, N. Y., Medical Association; Elmira, N. Y., Academy of Medicine; Medical Societies of the Counties of Broome and Niagara, N. Y., and Essex and Union, N. J.; Chittenden County, Vt., Medical Society.

Wednesday, *April 8th:* New York Pathological Society; American Microscopical Society of the City of New York; New York Medico-Legal Society; Medical Society of the County of Cayuga, N. Y.; Tri-State (New York, Pennsylvania, and New Jersey) Medical Association (Port Jervis, N. Y.); Pittsfield, Mass., Medical Association.

Thursday, *April 9th:* New York Laryngological Society (private); Brooklyn Pathological Society; Society of Medical Jurisprudence and State Medicine, New York; Harlem Medical Association of the City of New York; South Boston, Mass., Medical Club (private); Medical Society of New London County, Conn. (annual).

Friday, *April 10th:* Yorkville Medical Association, New York (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *April 11th:* Obstetrical Society of Boston (private)

Letters to the Editor.

ENCEPHALIC NOMENCLATURE.

New York, *March 26, 1885.*

To the Editor of the New York Medical Journal:

Sir: While in accord with the general principles underlying Professor Wilder's nomenclatural reform, and, indeed, having accepted many of them in writing and teaching, I would call attention to the objections which may be raised against the term "syringocœlia." By general consent, the spinal segment of the central nervous system is termed the myelon, and, to harmonize, the term should be "myelocœlia." The existence of a rhomboid sinus in the lumbar cord of birds, its *inferential* existence in extinct saurian reptiles, as well as the temporary dilatation observed in the same region of all examined amniotic and batrachian embryos, do not constitute, I venture to think, sufficient reasons for founding a "rhombocœle." On similar grounds, the embryonic opening of the "myelocœlia" into the neurenteric canal might rank with the porta (Monroi) as one of the primitive openings of the neurocœlia, and equally deserve a name. The term is further objectionable because "Syringomyelie" of the Germans, in contradistinction to *Hydromyelus* (which latter is a genuine dilatation of the central canal of the cord), is used to designate a pathological channel excavated in tissues which are normally without a cavity. I think that, unless it is generally agreed to give a segmental name to that part of the cord containing the rhomboid sinus of birds, a fundamental modification of the cœlian classification is not warranted.

In connection with the question of priority of description of the porta (of Monro), I would remark that Burdach's surprise at Gall's denial of its existence would have been mitigated had he borne in mind the ambiguity of Monro's description, to which Wilder directs attention in his first communication on the subject. Gall was led to believe that Monro referred to the existence of a communication between the lateral ventricles *through* the septum lucidum. He was correct in denying such a condition, as he was in many other matters pertaining to encephalic anatomy.

Respectfully yours,

E. C. Spitzka.

RUPTURE OF THE UTERUS.

Stapleton, S. I., N. Y., *March 25, 1885.*

To the Editor of the New York Medical Journal:

Sir: I observe in your issue of March 14, 1885, an article upon "Rupture of the Uterus," by Dr. Frank W. Ross, of Elmira, N. Y., reporting a case from the practice of Dr. William Woodward, of Big Flats, Chemung County, N. Y., in which the entire contents of the uterus at full term escaped, unruptured, into the abdominal cavity; with the statement: "it being the second ever recorded (the other by Hamilton) in which the entire contents of the uterus escaped, unruptured, into the abdominal cavity." Permit me in this connection to invite attention to an article upon "Rupture of the Uterus," by myself, published in the "American Journal of Obstetrics" for April, 1881. In this article one hundred cases are reported, among the number there being several where the same condition was found to exist as that mentioned by Dr. Ross.

Very respectfully,

R. P. M. Ames, M. D.,

Passed Assistant Surgeon, U. S. Marine-Hospital Service.

A PROPOSED PHYSICIANS' EXCHANGE.

To the Editor of the New York Medical Journal:

Sir: Referring to your editorial and the quoted remarks of a correspondent, in the journal for February 28th, I heartily second the suggestion of a Physicians' Exchange Bureau. As a practical nucleus for such an enterprise, I would suggest to the publishers of the journal that hereafter they devote a little space, under the head of "Exchange Column," to the wants and announcements of patrons. Let the latter be restricted to, say, five lines each, to be inserted three times, the advertising clerk to keep a register of each announcement, with a number attached to each, inquirers to be furnished with full address of advertiser, on application with stamp. The charge for registration and insertion of a skeleton announcement to be, say, $1, or other reasonable fee.

Whole columns of these wants and announcements appear in English medical journals, and some of the more obscure publications in this country have tendered a free list of the kind to their patrons; but, as yet, none of our first-class journals have ventured to try a paying plan. I believe such a department will soon become an indispensable medium when once fairly inaugurated. Will the "New York Medical Journal" undertake to be the pioneer in the movement?

Yours, Rustic.

Proceedings of Societies.

CHICAGO MEDICAL SOCIETY.

Meeting of March 16, 1885.

The Second Vice-President, Dr. C. T. Fenn, in the Chair; Dr. Liston H. Montgomery, Secretary.

Locomotor Ataxia; its Diagnosis and Treatment in the Pre-ataxic Stage.—Dr. D. R. Brower read a paper with this title. The pre-ataxic stage, he said, although easily recognized, was usually overlooked, and the result was that the diagnosis was not commonly made until the case was incurable. The diagnostic points were: Sensory disturbances (lightning pains); disturbances of the patellar, pupillary, and vesical reflexes; and sexual, gastric, mental, and muscular derangements. The various sensory disturbances were sometimes absent, but the patellar-tendon reflex was so rarely normal that practically its abolition was of great diagnostic significance. Perhaps two persons in a hundred were naturally destitute of this reflex, and it was therefore of importance to ascertain, in any given case, that it had been present during health. If the reflex was wanting, and the quadriceps extensor cruris responded normally to faradization, the sign was diagnostic. Loss of the pupillary reflex, without impairment of the accommodation, was a most striking symptom. The other phenomena enumerated were then described, and the author proceeded to consider the treatment of the pre-ataxic stage. The foundation of the treatment should be absolute and prolonged rest in the recumbent posture. This, he was aware, was an innovation, but the rule that a diseased organ needed rest applied to the spinal cord as well as to any other. As had been shown by Dr. Weir Mitchell, the judicious use of massage and passive movements would serve to keep up the general nutrition and prevent wasting of the muscles. In view of the frequency with which syphilis lay at the bottom of the disease (owing, he thought, to the inadequacy with which that affection was usually treated), anti-syphilitic remedies must be used; mercury should be pushed to a point short of salivation, and iodide of potassium given in drachm doses three times a day, or in larger amounts if they could be tolerated. Iodide of sodium, while not so efficient, was often better borne. Vichy salt was a good corrigent to be used with these large doses of mercury and iodide of potassium. With non-syphilitic patients, and with those who did not improve under this treatment, nitrate of silver might be used with advantage, in doses of from a quarter to half a grain. Want of success with this drug was often due to its decomposition before it had entered the circulation, and some excipient should be employed that would prevent this. He had found hyposulphite of silver, administered subcutaneously, non-irritating and satisfactory—a grain and a half daily until ninety grains had been given. Another drug of undoubted value was ergot, in drachm doses three or four times a day. Cold baths, of a temperature of 65° or 70° F., were also of service, while hot baths were highly injurious. Strychnine should be avoided. A number of clinical histories were then given, showing marked improvement, if not complete cure, as the result of this plan of treatment.

Dr. H. Gradle remarked upon the uncertainty as to whether the pre-ataxic symptoms were not really due to some other disease, and alluded to the first case on record of the cure of locomotor ataxia by stretching the sciatic nerve (Landolt's case, in 1875 or 1876), in which the spinal cord and the posterior roots of the nerves were found healthy after the patient's death, which was due to some other disease.

Dr. G. C. Paoli said that in but few cases had stretching of the sciatic nerve, for any form of difficulty, resulted in recovery or in benefit. His own experience did not bear out the view that syphilis was a frequent cause of locomotor ataxia; he was inclined to agree with Duchenne, that masturbation was a common cause. It occurred also in persons whose surroundings were insanitary. The free use of iron in the treatment would irritate the mucous membrane of the alimentary canal, but he thought it should be given in moderate doses, with iodide of potassium.

Dr. R. Tilley thought the pre-ataxic stage might extend over a long period, as long as thirty years, which made it difficult to say in any given instance what it implied. So far as the literature of the subject was concerned, he thought syphilis was mentioned as a cause by far the most frequently. He coincided with the author of the paper in regard to the injurious effects of hot baths, including the Turkish bath.

Dr. Brower closed the discussion, stating that the pathology of the disease was somewhat uncertain, that he did not agree with Dr. Paoli as to the agency of masturbation in producing it, and that he had wished to lay stress in his paper on the treatment of the pre-ataxic stage by rest.

Empyema; Paracentesis and Drainage.—Dr. E. Fletcher Ingals read a paper with this title, in which he called attention to a method of treatment that he had followed for a number of years, and that he had described in the "Transactions of the Illinois State Medical Society" for 1877. Aspiration would cure the disease in a limited number of cases; free incision would cure a large percentage of those patients who survived the shock of the operation; but he had no doubt that many of the deaths after the radical operation were due to the operation itself. Loomis had said that twenty per cent. of the patients in whom an opening took place spontaneously recovered, while only twelve and a half per cent. of those who were operated upon recovered. This, however, must not be taken as an argument against any operation, for recent statistics would show a much larger proportion of recoveries after operations by the better methods than without them. The essential points were to empty the cavity slowly and keep it thoroughly disinfected. Aspiration would seldom meet these requirements, but it was always best to precede the radical operation by aspiration, withdrawing the pus several times if necessary, so that dilatation of the lung and contraction of the chest-wall might proceed to such an extent that all the fluid could be removed at one time without causing a distressing or suffocative sensation. After this, a few days should be allowed to elapse before the radical operation was performed.

To secure proper drainage and prevent the loss of drainage-tubes in the pleural cavity, he prepared the tubes as follows: A piece of the best rubber tubing, two feet long, nearly a quarter of an inch in diameter, and with a caliber of an eighth of an inch, was cut half through near its middle, so that, when folded at the cut, one end would project an inch beyond the other. Thus folded, the two parts were fastened together, at a point about an inch and a half from the cut, with a silk suture, which was tied on the inside of the perforated tube. One portion of the tube should be perforated about half an inch from the cut, and the other portion in several places over an extent of three or four inches along the part that was to hang within the chest. As a matter of convenience, the outer ends of the tubes were tied tightly, so that pus would not escape through them during their introduction. The difference in the length of the two portions enabled us to know which one of them it was that had the multiple perforations, a matter that was often of importance in the after-treatment. Having made a small incision through the skin, he plunged a broad, flat trocar through it into the pleural cavity, the cannula being broad enough to allow of the ready passage of the two tubes. As the trocar was withdrawn, the pus flowed in a full stream, but the flow was at once stopped with the thumb until the drainage-tubes were picked up. The thumb was then removed, the tubes were pushed rapidly into the cavity to the proper depth, the cannula was withdrawn, and the tubes were left in position. Not more than an ounce or two of pus would escape, and the tissues would contract close about the tubes, preventing the entrance of air. A piece of sheet rubber, about three inches square, with two small holes near its center, was then slipped over the tubes down to the chest-wall, so as to prevent the ingress of air if the tubes became loose. To secure the tubes perfectly, a piece of the same tubing, half an inch long, was slipped over each of them, two strong loops having been tied to it. These were carried down close to the chest-wall, and long strips of adhesive plaster were passed through the loops and around the chest. The tubes hung between the folds of a bandage that was then passed over all. After completing the dressing, he opened the tubes, attached longer pieces by means of bits of glass tubing, and washed out the pleural sac with a twenty-per-cent. solution of carbolic acid at a temperature of 101° F., until the cavity was clean, care being taken to exclude air. The tubes were then closed by tying them. Subsequent cleansings should be made two or three times a day, and very soon this could be done by the patient himself or the friends. Two weeks after the operation, one of the tubes might be left open, hanging in a bottle, which the patient could carry in his pocket. This operation he had performed many times, and he thought nothing could be more satisfactory in recent cases; even where resection of the ribs might afterward be needed, he thought the chances were much improved by first resorting to this procedure. Eighty per cent. of the patients would recover.

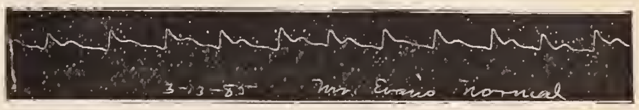
The subject was discussed by Dr. Taylor, of New York (present by invitation), Dr. Tilley, Dr. H. J. Reynolds, and the author of the paper.

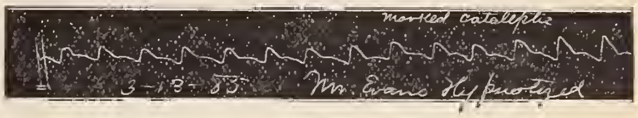
Hypnotism.—Dr. G. C. Davis read a paper on this subject in which, after having traced the history of numerous phases of the belief in a supernatural power of the mind over the body, he expressed his conviction that what we now knew as hypnotism had been sufficiently examined to warrant its further study in connection with medicine. For the sake of investigation, he would divide hypnotism into three forms, the cataleptic, the lethargic, and the somnambulistic. Hypnotism was an unusual physiological condition brought on by a perverted action of certain parts of the encephalic centers, and so powerful a means of influencing the nervous system demanded investigation with a view to its therapeutic employment. When a hypnotized person was in a state of lethargy, the eyes were usually closed, the limbs were flaccid, and the body was powerless; the pneumograph showed the respiration to be deep and somewhat irregular; the tendon reflexes were generally exaggerated, and neuro-muscular over-excitability was a marked characteristic.

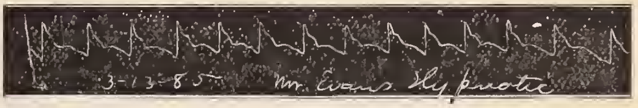
After having read the paper, the author introduced three persons to illustrate the three hypnotic states that he had mentioned. Each of them showed an acceleration of the pulse very soon after entering the "trance" state. The cataleptic subject's limbs were perfectly rigid, and remained wherever they were placed; they could be moved very little, and invariably returned to their original attitude. While these persons were under Dr. Davis's influence they obeyed every command and performed various antics. One of them seemed thoroughly frightened when he was told to open his eyes and look at the ghost of George Washington.

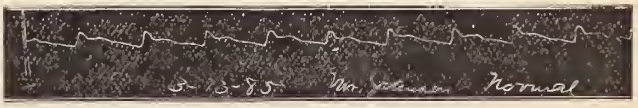
An animated discussion ensued, in which one of the speakers exclaimed: "As a scientific fact, this exhibition is worth that" (snapping his fingers)! It was suggested, too, that one of the subjects might be a "professional," but this was accompanied by the statement that it was not intended to question Dr. Davis's sincerity.

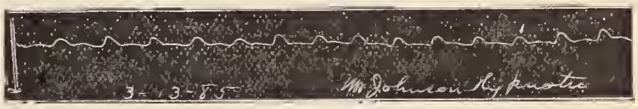
Dr. Davis reiterated his belief in the scientific importance of the subject, and added that he was not afraid to investigate anything. He then showed the following sphygmographic tracings:











CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of February 7, 1885.

Dr. William H. Porter in the Chair.

Phthisis.—The Chairman opened the discussion with a paper. [It will be published hereafter.]

Dr. Elliott said that since the discovery of the *Bacillus tuberculosis*, by Koch, nearly all observers who had been at all careful in their method of technique had succeeded in finding the microbe, and in isolating it so as to satisfy themselves that it had an identity of its own. Others, who were less careful, had found the bacillus, as they stated, in various indefinite fluids, such as water, normal sputa, urine, and the expectoration of various forms of lung disease, and on the strength of such cursory investigations had at once denounced Koch and his germ. While careful observers were satisfied of the identity of this germ, they were not agreed as to the part it played in the specific disease, tuberculosis. There was a tendency on the part of extremists to make us believe that many or nearly all cases of chronic phthisis were tuberculosis, that nearly all enlarged glands were tubercular, and in no department were they so sanguine as in the chronic suppurative diseases of bone. They classified all cases of carious inflammation, of suppuration of the vertebræ or of the joints, as distinctly tubercular, and would have the diagnosis based upon the discovery of one or two bacilli in an examination of from thirty to forty specimens. It seemed to him to be as unreasonable to classify all suppurative diseases of bone under the head of tubercular as it would be to class all the chronic diseases of the liver under the same head. But we knew that the liver was subject to syphilitic infiltration, fatty degeneration, and tuberculous deposit; was it not possible that the same variety of diseases could be ingrafted upon a diseased bone? This seemed the more probable since recent histological researches had demonstrated that bone was similar in structure to the connective tissue in which particles of mineral matter had been deposited. Like connective tissue, it had its vascular and nervous supply, and on this account, if on no other, it would be unreasonable to place all its affections in the category of tubercular. Of course this condition could be ingrafted upon a suppurative disease of bone, just as it might become the sequela of acute lobar pneumonia where, resolution failing to take place, an abscess formed and hectic and tuberculosis were developed. The autopsies in these cases showed that minute miliary tubercles were deposited about the abscess and sometimes in the other lung. It was asserted that in all cases of chronic suppurative bone disease the *Bacillus tuberculosis* was present, and that in cases that tended to a cure it became encapsulated; but that, if a general tuberculosis supervened, it escaped from its bondage and was carried to distant parts of the body. Most patients with caries recovered under the present modes of treatment; in fact, its general tendency was to recovery. Of course the condition incident to caries predisposed to tuberculosis. Competent observers must succeed in isolating the germ, and, by inoculating it, in producing the disease, before we should be able to say that the evidence was sufficiently strong to compel a universal acceptation of the theory. If this was done, he did not think that tuberculosis, especially in bone disease, would be found to be so common as many of the German observers would have us believe.

Dr. W. M. Leszynsky, during a three months' experience in an asylum for the insane, had seen a number of patients with phthisis who, although excavations had taken place, had no rise of temperature; in fact, none of the rational symptoms of the disease at all, everything else seeming to be masked in the mental derangement.

Dr. J. M. W. Kitchen had studied the disease entirely from a clinical standpoint, which in these days of "pure cultures" and microscopical investigation was not very fashionable. His consideration of the subject had, however, led him to some pretty definite conclusions. He thought that the causes might be said to be three: predisposing, intermediate, and direct. He was undecided with regard to the direct cause, but did not consider that Koch's theory was proved as yet. The predisposing cause was malnutrition in every case, while the cause of the malnutrition might be congenital as an anatomical malformation, such as a lung that was too large or too small; or it might be immediate, as in syphilis; or the cause of the malnutrition might rest with the heart or the nerves. He believed in hereditary habit and in an inbreeding of consumptives for generations, so that the descendants of phthisical parents, when exposed to a direct cause, readily developed the disease. The intermediate cause he considered to be dependent upon an active or passive congestion, so that pulmonary phthisis was set up in a tissue that was in a bad state for resistance. Of course this was merely observation: there was no actual proof. He also considered catarrhal pneumonia as an intermediate cause, because when a lung was in this condition it soon became badly nourished, and then could readily acquire tuberculosis; but tuberculosis might be present before the pneumonia. He had no faith in local applications in the treatment of this difficulty. It was, in fact, almost impossible to make any applications to the lungs in such a way as to exercise any curative influence, and he believed that the proper method was to build up the system as much as possible, in the hope that a cure would follow as the resistance of the tissues was improved. He was himself an example probably of a cured phthisis, as several years ago he was told by several prominent physicians of the city that he was suffering with the disease. He had immediately started with the method of treatment just indicated, going to the country and working in the open air, in order to place his system in the best possible condition to resist the progress of the disease; and he was convinced that his recovery was due to that course. He did not believe that there was any specific cure for phthisis, even though it should be proved to be a specific disease.

Dr. M. P. Jacobi said that it was well known that children as a rule experienced a certain amount of immunity from the disease so far as the lungs were concerned. Out of three hundred and twelve cases of phthisis in children, collected by Rilliet and Barthez, in forty-seven the lungs were found intact. This was in accord with the theory which considered the infection of the lung as secondary to tuberculosis of the bones, which was such a common condition in early life. Hüter maintained that one out of twenty cases might be averted by scraping the affected bone. Those who opposed this theory noticed how often caseous infiltration was present, and how many scrofulous children there were in whom phthisis did not occur. This was no argument, however, for tuberculosis could be just as well confined to external manifestations without any complicating visceral lesion as syphilis could. The exciting cause was frequently a broncho-pneumonia, though in some cases undoubtedly the infection was first received by the glands. Broncho-pneumonia with engorgement of the bronchial glands might follow pertussis, and the pneumonia would then subside, perhaps the patient appearing quite well, but the swelling of the glands still persisting. After a period of rest, there would be an apparent relapse of the whooping-cough. Paroxysms which might be mistaken for those of pertussis were sometimes present, as well as cyanosis from the pressure of the enlarged glands, with distension of the jugular vein, and dullness in the inter-scapular region could usually be made out, followed by other foci of infection in the lungs, until at last the child succumbed to diffuse tuberculosis.

Dr. Wendell C. Phillips read a paper upon Intra-pulmonary Injection, with an account of two cases. He also presented a patient upon whom he had performed the operation. [The paper will be published hereafter.]

Dr. A. H. Smith had had no personal experience with the intra-pulmonary injections, but was watching some cases in which he proposed trying it. He considered that it was always desirable to watch a patient, in whose case it was intended to apply a new remedy, for some time before doing so, in order to appreciate the tendency of the disease.

Dr. Jacobi had treated a case of phthisis in this way some three or four years ago. There was a large cavity under the left clavicle, also signs of softening in the right lung. The emaciation was extreme, the patient having suffered for several years. It was impossible to say whether or not anything was accomplished by the treatment, as the patient soon succumbed to the disease. The needles used were larger than those employed by Dr. Phillips, but were never introduced the whole three inches.

Four or five days were allowed to elapse between the operations. There was very little pain experienced, and iced cloths were immediately applied over the seat of puncture, as it was feared that a pleuritic inflammation might be set up. The patient raised a little blood after one of the injections, but whether or not she had previously been subject to hæmoptysis did not appear in the history. It was evident that the injections, if they had no beneficial effect, did no harm.

Dr. S. S. Burt had occasionally seen a case of phthisis which seemed to be of syphilitic origin, but he had not found anything like the proportion indicated in the paper of the evening. He had not seen the cases that had come under his observation very early in the disease, as patients were usually in the third stage when they came to a hospital. He did not consider that phthisis ever developed from acute lobar pneumonia unless tubercle were present, but he recalled one case in particular where an abscess and cavity had developed after a pneumonia under the right clavicle. He did not think that the disease was directly inherited, but that the bad constitution which might predispose to the inroads of the disease might be. After the tubercles were developed our resources were very limited; we could only palliate the cough, give nourishing food, and suit the climate to the conditions of the case in hand. It was a mistake, however, to send the patients away in advanced cases, as many undertook the journey in search of health only to die soon after their arrival at the selected locality. The division into three stages was entirely arbitrary, and he thought that two stages—that of consolidation and that of excavation—would answer the purpose as well if not better. In the prognosis, other things should be taken into consideration besides the physical signs. If the pulse was good and the fever slight, even though there was considerable consolidation, the patient might be sent away with the prospect of some, if not considerable, benefit; but, if with a slight amount of consolidation there was also a very weak pulse and a good deal of fever, he did not consider that anything could be gained.

Dr. A. H. Smith said that it seemed to him, to go back to the question of phthisis being frequently due to syphilis, that the study of the first disease in the rural districts remote from our large cities, where syphilis was not and had not been known for generations, such regions not being without the range of possibility, would militate against the theory. Often in these districts phthisis prevailed perhaps to as great an extent as in the cities. He knew of a place where the population consisted of well-to-do farmers, whose ancestors had settled there a hundred or more years ago, and who had descended from that original stock with scarcely any admixture of outside blood, where, although syphilis had been unknown for years, the great destroyer of life was phthisis. He considered that malnutrition lay at the bottom of the development of the tuberculous condition, and that one factor having much to do with this malnutrition was ventilation. Paradoxical as it might appear, he thought that any one who was familiar with life in the country would agree that, while people had "all out-doors" to live in, they paid little or no attention to the proper ventilation of their dwellings and sleeping apartments, living in reality in worse atmospheres than usually obtained in our large cities; and to this cause he believed much of the pulmonary disease existing in those localities could be traced. As bearing upon this subject, as well as upon a specific cause for the trouble, the fact might be mentioned, which was, he thought, generally admitted, that in many sections where phthisis had not existed prior to their becoming resorts for such patients the disease was now found to prevail to a greater or less degree. This was the case, he had been told, in Colorado. It was also exemplified in some of the South Sea Islands, where phthisis had been absolutely unknown among the natives until the advent of Europeans, since which time the disease was developed without any admixture of the two races. It would, therefore, seem as though some specific germ was transported from place to place, and, having once obtained a foothold, remained to work its terrible results. He thought the disease was much more curable than in former times. We constantly saw evidences in the post-mortem room of cavities that had healed over, in some cases finding the crustaceous remnants, the *débris* which had undergone chalky transformation, and he thought that any one whose professional experience extended back over a number of years could recall patients with undoubted phthisis that had either entirely recovered or, after living a number of years, had died of some other complication.

So far as treatment was concerned, he thought that, putting aside the intra-pulmonary injections (which could have only a very limited application, confined to those cases where the phthisis was limited in the amount of lung tissue involved or in the case of cavities where there was but one, for the reason that we could not follow up a diffuse phthisis by a multiplicity of injections, in widely separated portions of the lung), the treatment had to lie in the direction of the improvement of the nutrition in every way possible, and it seemed to him that a systematic study of the methods of improving the nutrition would cover pretty much the whole treatment of the disease; he did not think that we had any specific remedy or treatment.

Dr. S. J. McNutt said that there seemed to be nothing peculiar in the indications for the treatment of the disease in children. Loomis probably had given more attention to the general subject of health resorts and to climatic treatment than any other American author. He advanced the well-known rules with regard to the sending away of patients with the disease, and added that the same general indications should be observed in regard to the children born of phthisical or decrepit parents. Change of climate and surroundings was often of the greatest importance to them. He knew of no such powerful agent in arresting phthisical tendencies in childhood as systematic physical exercise in the open air. This physical training should be begun in infancy and continued to adult life. All the influences that tended to the development of hyperæmia of the bronchial tubes, including impure air, should be avoided. Climate more than anything else, in his opinion, had a controlling influence over the development of phthisis, except when it was tubercular, when he had never observed that it had any effect. We knew of no locality, however, that exercised an absolute curative effect, or where a person was absolutely free from any danger of contracting the trouble. Altitude, although formerly supposed to exercise this power, was now proved not to do so, immunity being due only to the absence of the organic germs. Tubercular phthisis was not, as a rule, benefited by the change, and these patients did better in their own homes than anywhere else, but in the cases of the fibrous variety high altitudes, such as Colorado or the different resorts in the Rocky Mountain range, appeared to be peculiarly beneficial. In the catarrhal form great care should be had when recommending a change of air. High altitudes were apt to prove rather a detriment than an advantage in such cases, owing to the patients' liability to hæmorrhage. He did not think it was ever necessary to send patients out of our own country, as we could find every variety of climate within its boundaries. In reply to a personal question, Dr. Loomis had said that he knew of no locality that seemed to have such a beneficial effect upon children with this complaint as the Adirondacks. Coates called attention to the fact that in persons whose respiratory muscles were weak phthisis was apt to develop. This view was supported by the fact that persons living in high altitudes, where the air was quite rare, and consequently greater respiratory exertion was necessary, seldom showed signs of succumbing to phthisis.

If phthisis could be shown to originate in imperfect expansion of the lungs, this fact would, in its turn, support the theory of a specific virus as an ultimate cause, because, if the air stagnated, the germ would have the opportunity to remain in the lung and develop. Koch had found that the bacillus was of slow development, at first at least, so that the absence of positive signs during a considerable period of its development was not at all remarkable.

Dr. F. R. Sturgis did not consider syphilitic phthisis a common affection. It was to be distinguished from the phthisis of tubercular origin by the absence of emaciation and hectic. There was usually some impediment to the respiration, and perhaps slight pain. The cough, if present, was slight, if the infiltration was disseminated through the lower and middle thirds of the lung. Given diffused dullness in the lower third of the lung in any case, without emaciation or fever, and with slight cough, he would suspect syphilis as a cause. If the affection was circumscribed, a cavity might be formed, in which case it would contain either some pus or a mucilaginous tenacious matter, such as was found in gummatous infiltrations elsewhere. Hæmoptysis rarely occurred, the lesion healed up, a cicatrix remained, and, of course, respiration was absent in that part of the lung. The speaker remembered a patient in Charity Hospital who had hemiplegia together with a tuberculo-crustaceous syphilide. He took five hundred grains of potassium iodide daily, under which treatment he improved and the hemiplegia disappeared. The dose was then diminished to three hundred grains daily, when an attack of dyspnœa occurred without expectoration, cough, or fever. There was no elevation of temperature. Physical examination showed consolidation in the middle third of one lung. The chlorides were not absent from the urine. The patient resumed the use of the five hundred grains of the iodide, and in three days the lung had cleared up. In children, pulmonary syphilis was usually diffused and not circumscribed. The speaker's experience did not coincide with that of the Chairman. He had not found this syphilitic affection of common occurrence, considering the great number of adults who had syphilis; indeed, he believed that a large proportion of male adults had syphilis at some period of their lives. They went through with it as they went through with the measles. The ratio of the hereditary was small as compared with that of the acquired cases. The speaker did not consider that the resolution of a given lesion under the use of the "mixed treatment" was any proof of a syphilitic origin, as both mercury and iodide of potassium had the property of causing absorption of infiltrations, from whatever cause, as was shown by the use of large doses of calomel in pneumonia of non-syphilitic origin.

(*To be continued.*)

Reports on the Progress of Medicine.

GENERAL MEDICINE.

By Henry C. Coe, M. D., M. R. C. S., L. R. C. P.

Hay Fever.—William S. Paget ("British Medical Journal") offers some suggestions with regard to this affection, from which he is himself a sufferer. He finds from his own experience that the active agent in causing the peculiar symptoms is not confined to the pollen of the *Graminaceæ*, since the perfume of any flower in full bloom will produce a similar effect after the disease has been once established. During an intense heat and when an east wind is blowing, he finds that the attacks are especially aggravated. A bright light also increases, though it does not produce, the symptoms. The writer has little faith in internal treatment; as regards local measures, he insists upon the necessity of protecting the eyes against pollen, dust, and also the glare of the sun. Veils and goggles are recommended for this purpose. He has experienced great relief from the use of tepid collyria of water, or a solution of zinc, morphine, and hydrocyanic acid; cold applications should be avoided, since their after-effects are unpleasant. Nasal irritation may be relieved by the inhalation of a mixture of equal parts of liquor ammoniæ and carbolic acid.

The Treatment of Hay Fever.—Lennox Browne (*Ibid.*) disapproves of the use of insufflations in the treatment of this disease, as being unscientific in theory as well as in application. He has long employed ointments, his own favorite formula being a drachm of oil of eucalyptus to an ounce of vaseline. This is carefully applied to the mucous membrane of the nose by means of a camel's-hair brush. As a radical measure he recommends the cauterization of the mucous membrane by means of the galvanic cautery at a dull red heat, or by the use of nitric, acetic, or chromic acid. Local causes of irritation, such as relaxed uvula, polypi, or hypertrophic rhinitis, should always be sought for and removed. As regards internal remedies, the writer places a good deal of confidence in opium and belladonna, stating that these drugs, when combined, not only prevent the unpleasant physiological effects which follow the use of either when administered alone, but also exert a more marked influence over the disease. "I venture," he concludes, "to differ from the dictum that the treatment of hay fever need by any means be considered as unsatisfactory, provided only it be conducted on scientific, not on empirical grounds."

The Diagnostic Value of Westphal's Symptom in Some Unusual Forms of Spinal Disease.—Althaus ("Lancet") reports several cases, showing the importance of loss of the knee-jerk as a pathognomonic symptom in certain obscure forms of tabes. This condition must be associated with a fair amount of voluntary power, faradaic response, and involuntary contraction of the quadriceps femoris on direct percussion. If knee-jerk is present or exaggerated, even if the other symptoms seem to point to sclerosis of the posterior columns, we may safely exclude this lesion.

Carcinoma of the Peritonæum.—Atkinson ("Archives of Medicine") writes at some length on this subject. He prefers to regard so-called colloid cancer not as a distinct variety, but rather as a degenerative change, such as may be present in either the scirrhous or medullary form. Pain is the earliest and most important symptom; the local tenderness is probably due in most cases to accompanying peritonitis, as are also various gastric disturbances. Locally an enlargement of the abdomen will be noted, and in most cases nodular masses may be defined on careful palpation. Ascites is constantly present, and frequent masks the local condition. If a sanguinolent fluid is obtained by tapping, there is a strong suspicion that cancer of the peritonæum is present; the diagnosis is confirmed if this fluid deposits a sediment containing groups of epithelial cells. Œdema of the lower extremities is frequently marked. The patients rapidly emaciate, fever is present, metastatic deposits are formed, and death eventually takes place by exhaustion, peritonitis, hæmorrhage, or some pulmonary affection. The average duration of the disease is about six months. The ætiology is obscure, heredity being a possible element. The diagnosis is often difficult, especially in primary carcinoma, tuberculous peritonitis being most often confounded with it. Pain, absence of fever and of evidences of tubercle in other organs, and extensive ascites point rather to carcinoma. Paracentesis should be resorted to in case of doubt. The treatment is simply palliative.

The Pathology of Suppurative Inflammation of the Kidney.—Steven ("Glasgow Med. Journal") contributes an elaborate article upon this subject, illustrated by numerous original drawings. He divides suppurative inflammation into four classes, the first including metastatic renal abscesses, the second inflammatory conditions due to extension of disease from the lower urinary tract, while the third and fourth include, respectively, renal phthisis and perinephritic abscess. As a result of his observations on metastatic abscesses, the writer is inclined to accept the views previously expressed by pathologists, that micro-organisms are never absent. He agrees with Klebs as regards the cause of suppurative nephritis in affections of the urinary tract—viz.: that it is due to organisms which are carried into the renal tubules and there excite suppurative actions; these organisms are doubtless introduced into the bladder during catheterization. Referring to tuberculous ulcers of the kidney, the writer states that he has detected numbers of Koch's bacilli in these lesions.

Speaking of perinephritic abscesses which seem to be entirely independent of any disease in neighboring parts, the suggestion is offered that perhaps the virus originates in the bladder, and is carried to the capsule of the kidney by the lymphatics of the ureter.

The Early Stages of Tuberculosis.—Gibson ("Edinburgh Medical Journal") reports at length a case which, in his opinion, proves that there is an early, and curable, stage of tuberculosis. The patient was a chemist, with a good family history, who two months previously had begun to notice that he perspired freely at night. He lost flesh rapidly, developed hectic, and, when examined, had harsh respiration and fine crepitant râles at the right apex. He was put on a mixture of atropine and sulphate of quinine with generous diet, under which treatment he improved rapidly, until in the course of four months he had gained sixteen pounds, and all unfavorable symptoms had disappeared.

The Nature and Treatment of Chorea.—Fox ("Bristol Medico-chirurgical Journal") regards chorea as a symptom of cerebral disease. He quotes three fatal cases of his own, in which careful examinations were made. In one of these the patient suddenly became comatose, and died. At the autopsy several blood-clots were found pressing upon the right hemisphere of the brain and minute emboli were present in the arteries of the corpora striata. A few vegetations were found in the mitral valve, though no murmur had been detected during life. In a second case death was equally sudden. General softening of the central white substance was found. Vegetations were present on the aortic valves, as had been suspected. The third patient was delirious for two weeks before his death. Small emboli were discovered in the vessels of the corpora striata. The mitral valve was slightly "beaded"; both lungs and the spleen contained infarctions.

Summarizing his observations upon the embolic origin of chorea, the writer states that vegetations are found on the mitral valve in the majority of fatal cases; the fact that no murmur is heard in most instances is probably due to the fact that these excrescences are generally situated on the auricular surface of the valves, where they offer no obstruction to the flow of blood. In regard to treatment, Dr. Fox makes a distinction between that suitable in chorea minor and that to be employed in chorea major. In the former cases he has long used cold affusions with much benefit; with electricity he has had but little experience. Iron, arsenic, and sulphate of zinc are useful drugs; the bromides and hyoscyamus are sometimes administered with benefit; calabar-bean is to be employed with great caution. Regular gymnastic exercises are valuable, especially with young children. In treating chorea major, opium and chloroform inhalation, cannabis indica, and conium are recommended. The writer has had no experience with strychnine carried up to large doses, as advised by Trousseau.

Tubercle Bacilli in Scrofulous Swellings.—Pellizari ("Annales de dermatologie et de syphiligraphie") reports a case of scrofula in a child whose family history was free from tuberculosis. She had several strumous ulcers upon the face, which were cauterized; as they recurred, they were thoroughly scraped out with the sharp curette. Among the caseous masses thus obtained the author found by long searching, after upward of sixty stained specimens had been examined, three of the characteristic bacilli of tuberculosis. These, however, were enough, he thinks, to establish the diagnosis.

Eclampsia and Epilepsy.—Féré ("Archives de neurologie"), writing of the relation between these two affections, lays down the following propositions: Children often inherit a tendency to convulsive attacks; these attacks in later life become truly epileptic. Scarlatinal eclampsia may culminate in genuine epilepsy. Pregnancy may act as an exciting cause of epilepsy in patients of a neurotic tendency. Puerperal eclampsia can often be explained only by regarding it as true epilepsy.

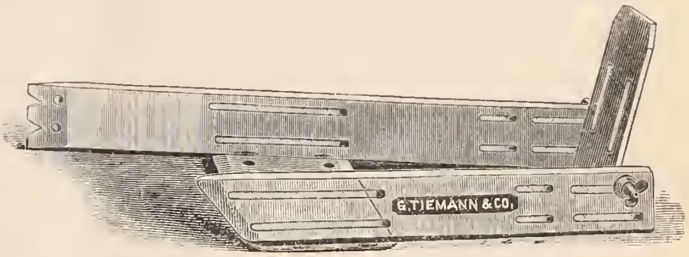
In certain subjects we may conceive of the existence of "epileptogenous zones" (gastric, uterine, etc.), irritation of which is peculiarly liable to occasion neurotic manifestations. Finally, there are acute epilepsies (*épilepsies éclamptiques*), which occur in neurotic subjects under special excitement. These may manifest themselves in infancy, in the puerperal state, etc., and may be entirely cured, or may terminate in chronic epilepsy.

New Inventions, etc.

AN APPARATUS FOR THE TREATMENT OF FRACTURE OF THE THIGH.

By J. T. Fry, M. D.,
RICHMOND, TEXAS.

The apparatus for fracture of the femur, of which the accompanying woodcut is an illustration, was devised by the writer several years ago, and, while it has been applied and used with very little trouble, it was never arranged so as to be easily adjusted in its various indications until lately, for which he is indebted to the firm of G. Tiemann & Co., of New York. The object of the writer in producing an appliance of this kind was to get rid as much as possible of bandages, which have always been, and are even yet, the drawback in treating fractures. Skill has greatly lessened the dangers of bandages, we well know; but how few men of our profession have enough practice to either make them expert or keep them so outside of our large hospitals or large cities, where there are opportunities to follow surgery as a specialty! We maintain, however, that this appliance may be utilized even by the most expert and experienced surgeon for treating the earlier stages of fracture, especially if compound or comminuted; that is to say, allowing, first, free circulation in the limb, constant inspection, and easy adjustment up to the period when the dangerous symptoms are gone and healthy union is established, after which, say in about four weeks, all things being favorable, a permanent dressing can be placed on the limb and the box set aside. The leading indications in fracture being, after reduction, extension, counter-extension, and lateral support by some form of pressure, we have in this a movable foot-piece which plays in a slot of several inches with which to increase extension after it is once obtained, which is done by securing the foot to the board by strips of muslin attached to a lace around the ankle placed over well-arranged cotton batting to prevent abrasions, or strips of adhesive plaster attached to the sides of the leg as for the pulley and weight, or even the clove-hitch. This foot-board has also a ginglymus movement which will permit passive movement of the tarsal joint at appropriate times. A second point of extension is from above the knee with a lace to fit smoothly, with tapes one and a half to two inches broad, which are brought down and made fast in slots in the sides of the box below the knee. The double points of extension not only serve the purpose of increased power, but, when once everything is going on well, one or the other can be relaxed alternately. We have then counter-extension by a perineal band or roll, extending from the groin diagonally across the abdomen posteriorly and anteriorly, and made fast in the fork of the long splint, or side of the box, this long side being made fast to the patient's side by a broad bandage carried around the pelvis. The bottom of the box is an admirable posterior splint, while the inner side steadies the other parts, and is a point of attachment for securing one side of the lateral support, which is accomplished by a piece of muslin, about two inches wide, carried around the limb; or, to be plain on this point, one end is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passed under the limb around to the opposite side, brought over the upper side of the limb, carried through the top slot of the side of the box from which it started, and tied with the initial end, which is brought the through bottom slot, while the same kind of piece or strip is carried around the opposite way, and made fast in the slots of the opposing side of the box. Thus it will be seen that traction and support can be had to balance each other from the opposite sides, restraining either upper or lower fragment or end of the bone at the pleasure of the surgeon. These pieces or strips of bandage can be shifted up or down the limb according to which end of the fractured bone you desire to press on or restrain. If the surgeon deems it advisable, he can place pads inside the box and along the thigh, instead of the above-mentioned counter-opposing muslin strips. Again, we believe that there is sufficient power of extension and counter-extension to reduce the bones to coaptation by gradual tightening, and, when once in apposition, they can not well be displaced by muscular contraction or other means; but, with the steady and continued lateral pressure of the side-strips made fast around the opposite sides of the limb in the side-slots of the box, the position can be kept as nearly correct as possible. If there is a wound of the soft parts to be attended to and dressed, antiseptic lotions can be applied by cloths saturated and renewed at pleasure, as the entire limb is always exposed to view, and there is no means of cutting off the circulation and producing gangrene. The limb can be steadied and the sides of the box turned down if a necessity should occur for dressing a wound on the side of the thigh, and, when this has been done, everything, of course, be readjusted. During such time the limb should be carefully held steady and not allowed to slip, as also the parts carefully tightened at all points of traction afterward. If there should be pinching or pain at any point of pressure or friction, soft cotton-wool can be slipped under the same, such only being likely at the heel or perinæum. A little study and manipulation of the apparatus will soon enable any physician with a small share of surgical skill or ingenuity to understand the entire *modus operandi.*

Miscellany.

The Ninth International Medical Congress.—The following rules for the session to be held in Washington, in 1887, have been adopted:

1. The Congress will be composed of members of the regular medical profession, and of such persons as may be specially designated by the Executive Committee, who shall have inscribed their names on the Register of the Congress, and shall have taken out their tickets of admission. As regards foreign members, the above conditions are the only ones which it seems, at present, expedient to impose.

The American members of the Congress shall be appointed by the American Medical Association, by regularly organized State and local medical societies, and also by such general organizations relating to special departments and purposes, as the American Academy of Medicine, the American Surgical Association, the American Gynæcological, Ophthalmological, Otological, Laryngological, Neurological, and Dermatological Societies, and the American Public Health Association; each of the foregoing societies being entitled to appoint one delegate for every ten of their members.

The members of all special and subordinate committees, appointed by the General Committee, shall also be entitled to membership in the Congress.

All societies entitled to representation are requested to elect their delegates at their last regular meeting preceding the meeting of the Congress, and to furnish the Secretary-General with a certified list of the delegates so appointed.

2. The work of the Congress is divided into nineteen sections, as follows, viz.:

1. Medical Education, Legislation, and Registration, including methods of teaching, and buildings, apparatus, etc., connected therewith. 2. Anatomy. 3. Physiology. 4. Pathology. 5. Medicine. 6. Surgery. 7. Obstetrics. 8. Gynæcology. 9. Ophthalmology. 10. Otology. 11. Dermatology and Syphilis. 12. Nervous Diseases and Psychiatry. 13. Laryngology. 14. Public and International Hygiene. 15. Collective Investigation, Nomenclature, and Vital Statistics. 16. Military and Naval Surgery and Medicine. 17. Practical and Experimental Therapeutics. 18. Diseases of Children. 19. Dental and Oral Surgery.

3. The general meetings will be reserved for the transaction of the general business of the Congress, and for addresses or communications of scientific interest more general than those given in the sections.

4. Questions which have been agreed upon for discussion in the sections shall be introduced by members previously nominated by the officers of the section. The members who open discussions shall present, in advance, a statement of the conclusions which they have formed as a basis for debate.

5. Notice of papers to be read in any of the sections, together with abstracts of the same, must be sent to the secretary of that section before April 30, 1887. These abstracts will be regarded as confidential communications, and will not be published until the meeting of the Congress. Papers relating to questions not included in the list of subjects suggested by the officers of the various sections will be received. Any member, after April 30th, wishing to bring forward a subject not upon the programme, must give notice of his intention to the Secretary-General at least twenty-one days before the opening of the Congress. The officers of each section shall decide as to the acceptance of any communication offered to their section, and shall fix the time of its presentation. No communication will be received which has been already published, or read before a society.

6. All addresses and papers, read either at general meetings or in the sections, are to be immediately handed to the secretaries. The Executive Committee, after the conclusion of the Congress, shall proceed with the publication of the Transactions, and shall have full power to decide which papers shall be published, and whether in whole or in part.

7. The official languages are English, French, and German.

In the sections no speaker will be allowed more than ten minutes, with the exception of readers of papers and those who introduce debates, who may occupy twenty minutes.

8. The Rules, Programmes, and Abstracts of Papers will be published in English, French, and German.

Each paper or address will appear in the Transactions in the language in which it was delivered by the author. The debates will be printed in English.

9. The officers of the General Committee on Organization are a President, such number of Vice-Presidents as may hereafter be determined on, a Secretary-General, and a Treasurer, and those elected to these positions will be nominated by the General Committee to hold the same offices in the Congress. All vacancies in these offices shall be filled by election. Honorary Presidents of the Congress and of the several sections may be appointed at the meeting of the Congress.

10. There shall be an Executive Committee, to be composed of the President, Secretary-General, and Treasurer of the General Committee, the Chairman of the Finance Committee, and of four other members to be elected by the General Committee. The duties of the Executive Committee shall be to carry out the directions of the General Committee, to authorize such expenditures as may be necessary, and to act for the General Committee during the intervals of its sessions, reporting such action at the next meeting of the General Committee.

11. There shall be a Standing Committee on Finance, composed of such number of persons as the Executive Committee may deem expedient, to be appointed by the President, subject to the approval of the Executive Committee. The Chairman of the Finance Committee shall be *ex officio* one of the Vice-Presidents of the Congress, and also a member of the General and Executive Committees. The Treasurer shall be *ex officio* a member of the Finance Committee.

12. Presidents of the Sections shall be *ex officio* members of the General Committee.

13. The Committee on Organization of each Section shall be composed of a President, such number of Vice-Presidents as may be deemed expedient, of one or more Secretaries, and of members forming a council.

The Preliminary Organization is as follows: *President,* Austin Flint, Sr., M. D., New York. *Vice-Presidents,* Henry I. Bowditch, M. D., Boston; Henry F. Campbell, M. D., Augusta, Ga.; Nathan S. Davis, M. D., LL. D., Chicago; R. Palmer Howard, M. D., Montreal; Levi C. Lane, M. D., San Francisco; Tobias G. Richardson, M. D., New Orleans; Alfred Stillé, M. D., LL. D., Philadelphia; The Chairman of the Committee on Finance; the President of the American Medical Association; the Surgeon-General of the United States Army; the Surgeon-General of the United States Navy. *Secretary-General*, John S. Billings, M. D., LL. D., U. S. A., Washington. *Treasurer*, John Mills Browne, M. D., U. S. N., Washington. *General Committee*, Robert Battey, M. D., Rome, Ga.; Clarence J. Blake, M. D., Boston; Henry P. Bowditch, M. D., Boston; Samuel C. Busey, M. D., Washington; James R. Chadwick, M. D., Boston; J. M. Da Costa, M. D., Philadelphia; John C. Dalton, M. D., New York; W. W. Dawson, M. D., Cincinnati; Francis Delafield, M. D., New York; George J. Engelmann, M. D., St. Louis; William A. Hardaway, M. D., St. Louis; I. Minis Hays, M. D., Philadelphia; David L. Huntington, M. D., U. S. A., Washington; Abraham Jacobi, M. D., New York; Hosmer A. Johnson, M. D., LL. D., Chicago; Christopher Johnston, M. D., Baltimore; R. A. Kinloch, M. D., Charleston, S. C.; George M. Lefferts, M. D., New York; Joseph Leidy, M. D., LL. D., Philadelphia; S. Weir Mitchell, M. D., Philadelphia; Henry D. Noyes, M. D., New York; Thaddeus A. Reamy, M. D., Cincinnati; Thomas F. Rochester, M. D., Buffalo; Lewis A. Sayre, M. D., New York; Jonathan Taft, M. D., Cincinnati; W. Chew Van Bibber, M. D., Baltimore; Horatio C. Wood, M. D., Philadelphia; David W. Yandell, M. D., Louisville, Ky. *Executive Committee*, I. Minis Hays, M. D., Chairman, Philadelphia; the President; the Secretary-General; the Treasurer; the Chairman of the Finance Committee; Samuel C. Busey, M. D., Washington; Abraham Jacobi, M. D., New York; Christopher Johnston, M. D., Baltimore. *Standing Committee on Finance*, William Pepper, M. D., LL. D., Chairman, Philadelphia. [The organization of this Committee will be announced hereafter.]

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The Chicago Medical College held its twenty-sixth annual commencement exercises at the Grand Opera House on Tuesday, March 24th, when the degree in medicine was conferred on forty-one candidates, and the honorary degree on Dr. Jacob W. Velie.

The Fairfield County, Conn., Medical Society will hold its ninety-fourth annual meeting at South Norwalk, on Tuesday, the 14th inst. The president, Dr. Seth Hill, of Stepney, will give an address on "Ætiology," and Dr. Simon Baruch, of New York, another, on "The Significance of the Cervical Follicles in Gynæcological Practice."

THERAPEUTICAL NOTES.

Boldo and Boldine.—Laborde ("Union méd.") has made several experiments with these drugs, which were mentioned by Dujardin-Beaumetz in 1874, and have long been used in hepatic diseases. Boldine, an alkaloid extracted from the leaves of the boldo, has a complex chemical nature, which is not yet understood. When administered to animals in doses of three grains it causes instant death without convulsions; in smaller doses it acts as a soporific. Its hypnotic effect is ascribed by Laborde to its direct action upon the brain. Five or six grains administered to the human subject cause a deep slumber, from which the individual awakes without any unpleasant sensations.

Chloride of Methyl.—We have already called attention to the value of methyl spray in the treatment of neuralgia. Tenneson ("Rev. de méd.") has extended its use so as to include several other diseases. He records twenty cases of articular and muscular rheumatism, pleurisy, acute pneumonia, and tuberculous joint disease, in all of which pain was at once relieved by the use of the spray. The writer acknowledges that there is some danger in producing such sudden and intense cold, especially in cases of pneumonia, but he regards the anæsthetic properties of the spray as sufficiently great to counterbalance the other disadvantages. A prolonged erythema, more or less permanent cutaneous hyperæsthesia, and blistering are some of the minor accidents that may occur. It is possible to avoid these by not directing the vapor upon a single spot for more than five or six seconds at a time.

Pilocarpine in the Treatment of Pneumonia.—Mollière ("Lyon méd.") reports at length a case of double pneumonia treated with injections of pilocarpine, and adds some remarks concerning the efficacy of the drug. After reviewing the congestive effects produced in various organs by the presence of consolidation in both lungs, especially the symptoms referable to the kidneys, he draws the inference that by causing profuse perspiration the renal trouble may be relieved, with the result of producing a sensible diminution in the general blood pressure. In short, he believes that the cerebral disturbances so frequently observed in cases of double pneumonia are uræmic in their origin, and should be treated accordingly. A sixth of a grain of pilocarpine is the amount injected, and the effect is speedy and persistent.

Electricity in the Treatment of Uterine Fibroids.—Carlet (*Ibid.*) has written a thesis upon this subject, which gives the results of observations made in one hundred and eighteen cases. The method which he describes consists in the application to the uterus of a constant current, which is not interrupted throughout the entire sitting. The positive pole is passed within the uterine cavity, the negative being placed over the lower part of the abdomen. In case the tumor encroaches upon the cervical canal to such an extent that it is impossible to pass the electrode up to the fundus uteri, a channel is made in the growth by galvano-puncture, and the electrode is inserted into that. The author states that this treatment certainly does cause a diminution in the size of fibroid tumors, although they never disappear completely; the hæmorrhages cease and the general condition of the patient is decidedly improved. No accident occurred in upward of nine hundred and fifty *séances* reported by the writer.

The Salts of Copper in the Treatment of Scrofula.—Du Moulin ("Gaz. hebd. des sci. méd. de Montpellier"; "Lyon méd.") concludes, from a series of observations, that the salts of copper have a specific action upon strumous affections, and asserts that under their use enlarged glands diminish rapidly in size, and scrofulous eruptions disappear. He used the sulphate of copper, dissolved in syrup.

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Original Communications.

TWO CASES OF LIGATURE OF THE COMMON CAROTID ARTERY FOR TRIGEMINAL NEURALGIA.[*]

By JOSEPH C. HUTCHISON, M. D.,
SURGEON TO THE BROOKLYN HOSPITAL.

Case I.—Daniel C., forty-five years old, born in Ireland, and a gold-digger by occupation, entered the Brooklyn City Hospital, September 4, 1871, suffering from neuralgia of the left inferior maxillary nerve. His general health had always been good. From 1855 to 1867 he was engaged in mining in California, and, although much exposed to wet and cold during this time, he was never kept from work by illness. In the autumn of 1867 he was attacked with sharp, stinging pain in the region of the lower jaw, occurring in paroxysms, every two or three hours. The paroxysms increased in frequency and severity for the two succeeding years, compelling him to give up work. During this period the three molars and the adjoining bicuspid of the left side of the inferior maxilla were removed, but the removal of the teeth (which were sound) gave no relief.

In the spring of 1871, previous to which time he had been under my treatment for several months, with only temporary improvement, the last upper molar of the left side was removed by a surgeon in Boston. The pain ceased, and the case was reported as one of cure.[†] Three weeks after the removal of the tooth, the paroxysms of pain returned, and were as severe as before.

When the patient entered the hospital he was somewhat emaciated and his strength was impaired. Paroxysms of pain (described as stinging, burning) recurred every few minutes, day and night. The patient relieved himself somewhat by violent friction with his hand over the seat of pain.

September 6, 1871, Gross's operation [‡] of exsection of the alveolar processes for neuralgia of the jaw-bones was performed. An incision was made along the edentulous alveolar ridge, on the left side of the lower jaw, as far forward as the first bicuspid tooth; the soft parts, including the periosteum, were turned aside with a periostotome, and the alveolar processes were gnawed off with a rectangular gouge forceps to a level with the palatine process. The bone and soft parts seemed to be healthy. No sutures were used; the wound healed rapidly, and the patient was entirely relieved. Twelve days after the operation he was discharged apparently well, and five months afterward he reported that there had been no recurrence of pain since the operation. The case was again reported as cured; this time by the writer.[#]

He returned to California and resumed his occupation as a miner. The pain returned with its former severity, but I am unable to state how soon after the last operation, and the dental branch of the inferior maxillary nerve was exsected by a California surgeon. This operation relieved him entirely for three years; but whether it was also reported as having cured the patient I am unable to state. He again applied to me for treatment in June, 1877, nearly ten years having elapsed since the disease first began. The pain occupied the same locality as before, in his lower jaw, radiating to the corner of his mouth and lips. and occurred in paroxysms of intense severity every half-hour. He obtained only temporary relief from electricity and the usual medicinal remedies for this form of neuralgia, and, in desperation, implored that operative surgery, which had previously brought him relief, should again be appealed to. For this purpose he was readmitted to the Brooklyn City Hospital, and on June 30th a carbolized catgut ligature was applied to the left common carotid artery. Antiseptic dressings were used; the wound healed by first intention, and after the operation there was prompt and complete cessation of pain. No untoward symptom occurred, except a slight hoarseness, which continued for a year and suddenly left him, and he was discharged *cured* a second time, according to the hospital record, July 16, 1877.

One year and a half after the operation (January 23, 1879) he wrote from California that he was quite well, and entirely free from neuralgia, and I hoped that his intractable enemy was finally subjugated. But I was disappointed. In September, 1883, he again presented himself for treatment, and stated that for three years and eight months after ligature of the common carotid he was free from pain. It then returned, but with less severity, soon after he began to work in damp places. I now advised him to seek employment in a drier atmosphere, and he promised to report himself to me if the pain did not subside. I have not heard of him since.

Case II.—*Neuralgia of the First and Second Divisions of the Fifth Nerve of Thirty Years' Standing; Ligature of the Common Carotid Artery, and Neurectomy.*—G. N., aged forty-nine, a native of Ireland and a carpenter by occupation, came under my care at the Brooklyn City Hospital, June 10, 1878, for very severe neuralgia of the first and second branches of the fifth nerve. He stated that March 12, 1848, thirty years before, he was suddenly attacked with severe pain in the right cheek after washing his face in cold water. Previous to this time he had enjoyed good health, and there was no family predisposition to any disease. The pain was very intense and extended from the right cheek and right side of the nose backward along the track of the superior maxillary branch of the fifth nerve. He had occasional pain also in the right side of the forehead; the pains were paroxysmal, occurred at short intervals, and were excruciating. He alleges that he was treated at that time by copious blood-letting, and had no more pain for five or six months, when it returned with its former severity, and continued for three years, when he applied to the late Dr. Ackley, of Cleveland, O., for surgical treatment. This eminent surgeon made a long incision through the scalp above the right ear, but the operation gave no relief. The patient then visited New York and Philadelphia for treatment; various internal remedies were prescribed, but without any benefit, and he was told by Dr. Valentine Mott that he could do nothing for him. September 19, 1856, he sought relief in Bellevue Hospital, and came under the care of the late John A. Lidell, M. D., who at that time reported the case.[*] Dr. Lidell made an incision near the right supra-orbital notch, and excised the principal branches of the supra-orbital nerve to the extent of about three eighths of an inch. He then cut down upon the infra-orbital filaments near the infra-orbital foramen for the purpose of excising them, but the hæmorrhage was so free that he was unable to see them, and he contented himself with simply dividing them. These operations gave the patient six months of immunity from pain; it then returned as severely as before, when Dr. Lidell opened the infra-orbital canal and excised half an inch of the trunk of the superior maxillary nerve. Six days afterward the patient was discharged from the hospital relieved, but how long the relief continued is not known. He was next treated by Dr. Willard Parker, Sr., with internal remedies, but received only transient benefit.

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[*] Read before the New York Surgical Society, March 24, 1885.

[†] See "Boston Medical and Surgical Journal," vol. viii, p. 82, 1871.

[‡] See "Transactions of the American Medical Association," vol. xxi, p. 198.

[#] "American Journal of the Medical Sciences," January, 1874.

[*] See "New York Journal of Medicine," vol. i, third series, p. 317.

This poor fellow entered the Brooklyn City Hospital in 1860, suffering intensely, and a portion of the right superior maxillary nerve was again excised by Dr. George Cochrane and Dr. Charles E. Isaacs; the operation gave him relief only until the incisions had healed. He came under my observation June 10, 1878, as before stated, at the Brooklyn City Hospital. He had frequent paroxysms of severe pain, lasting from five minutes to half an hour, and he stated that for the last month the paroxysms had been more severe than ever before. His suffering had now extended over a period of thirty years, with occasional intervals of relief after some grave surgical operation. Medical treatment had given him only transient comfort, and he desired that some operation might again be tried to secure him immunity from pain. Encouraged by the result in the previous case, I suggested ligature of the right common carotid artery, and, after having explained to him its dangers and the uncertainty of obtaining relief from the operation, he begged that it should be done as speedily as possible. I applied a ligature to the artery June 21, 1878, above the omo-hyoid; it came away on the nineteenth day. No cerebral symptoms followed the operation, nor were the paroxysms of pain diminished, either in frequency or in severity, in the slightest degree, notwithstanding the liberal use of hypodermic injections of morphine after the operation. I now decided to try excision of the infra-orbital nerve again. A semi-elliptical incision was made along the lower border of the orbit down to the bone, and the soft parts were separated by an elevator from the orbital plate of the superior maxillary bone back to its posterior border. It was my intention to divide the nerve where it enters the infra-orbital canal at the spheno-maxillary fissure, and then divide it in front where it emerges from the infra-orbital foramen, and draw out of its canal the portion of the nerve lying between the sphenoidal fissure and the infra-orbital foramen.* I found it impossible to do this operation systematically, owing to the altered condition of the parts due to former operations, and I contented myself with scraping out the entire contents of the canal, hoping that the canal might be obliterated, and that a new bony formation would prevent a reunion of the excised nerve. The patient was immediately and entirely relieved of pain by the operation, and remained well until he was discharged August 31st. A few days subsequently he presented himself again and complained of severe pain in the inferior maxillary nerve, extending from the right mental foramen backward over the right cheek, which he declared was as intense as his former pains were. I lost sight of him after this.

Recapitulation of the Operations.—Case I.—1st. Removal of the right upper molar tooth was followed by relief from pain for three weeks, although there had been no pain in the course of the superior maxillary nerve at any time.

2d. Removal of the alveolar processes of the lower jaw gave complete relief for more than five months, but how much longer I can not state.

3d. Excision of the inferior maxillary nerve relieved the pain for three years.

4th. Ligature of the left common carotid resulted in relief from the neuralgia for three years and eight months. No cerebral symptoms followed the operation, and none have appeared after the lapse of nearly four years.

Case II.—1st. Incision of the scalp with no benefit.

2d. Excision of the branches of the supra-orbital nerve near the supra-orbital notch, and at the same time incision of the infra-orbital filaments of the superior maxillary nerve near the infra-orbital foramen, relieved the neuralgia for six months.

3d. Removal of half an inch of the superior maxillary nerve from the infra-orbital canal was followed by freedom from pain for an unknown period of time.

4th. Excision of the superior maxillary nerve in the infra-orbital canal was repeated ten years after the last operation, but the neuralgia returned so soon as the incisions had healed.

5th. Ligature of the right common carotid twelve years after the last operation. There was no relief from pain, and no cerebral symptoms followed the operation.

6th. Removal of the superior maxillary nerve from the infra-orbital canal a third time, a little more than ten years since it was last removed. During the two months and a half after the operation that he was under observation he was free from pain, but then began to complain of neuralgia in the inferior maxillary nerve. I then lost sight of him.

The operation of tying the common carotid artery for trigeminal neuralgia, which was first recommended and practiced by Nussbaum and Patruban, has been practiced by other surgeons with a fair amount of success. Hüter* refers to fifty-four cases, in three of which the patients died (five per cent.), and remarks incidentally that the operation was performed after all other treatment, medical and surgical, had failed. Professor John A. Wyeth † has tabulated fourteen cases, one of which was the first case reported in this paper. He classed it among the cured, but the disease returned, since the publication of his paper, three years and eight months after the artery was tied. Ferdinand H. Gross, M. D., of Philadelphia,‡ has added one case, and the writer has reported another in this paper. Of these sixteen cases, which were quite fully reported, one was fatal; fifteen were followed by recovery; two were total failures; eight were cured; six temporarily relieved—one for two years, one for three years and eight months, one for four years, one for eight months, one for eleven months [and in one relief was not of long duration].

The operation, it seems to me, is worthy of further trial in severe cases which have resisted all other treatment, medical and surgical. It has been suggested that the same results would be accomplished by ligature of the external carotid, whose branches supply the trigeminal nerves.

The treatment of trigeminal neuralgia is, it must be confessed, largely empirical in its character. A rational and discriminating treatment must be based upon a more thorough knowledge of the morbid conditions which produce the symptom. Such investigations have thus far been very incomplete.

The Chicago Gynæcological Society.—The following is the programme for the next meeting, to be held at the Palmer House on Friday evening, the 17th inst.: 1. Remarks upon Chronic Peri-uterine Abscess, by Dr. Christian Fenger; Remarks upon a Teratoma, by Dr. W. W. Jaggard; a paper by Dr. Henry T. Byford (the subject to be announced).

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* This operation was described by Hodgen, of St. Louis. See "Transactions of the American Medical Association," vol. xxxi, p. 773.

* "Grundriss der Chirurgie," vol. ii, p. 233.

† "Essays on Surgical Anatomy and Surgery," William Wood & Co., 1879.

‡ "American Journal of the Medical Sciences," April, 1883, p. 366.

INJURIES TO THE PELVIC FLOOR FROM PARTURITION AND OTHER CAUSES.

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(*Continued from page 321.*)

DESCRIPTION OF THE OPERATION FOR RUPTURE IN THE FIRST DEGREE.

The first part of the operation consists in denuding the surfaces to be united. The extent to which this should be carried depends upon the character of the injury. If there is no prolapsus of the pelvic floor or of the posterior vaginal wall (see Fig. 5), it will suffice to denude the surfaces as far as the original laceration extended and no farther. This can be done by tracing the outline of the scar tissue formed by the healing after the laceration. This scar tissue contracts and brings the normal tissues toward each other so that the portion to be exsected, as indicated by the rule given here, appears to be very small and insufficient; but, when the scar tissue is removed, the skin and mucous membrane retract and make the denuded surface large enough—much larger, in fact, than the piece of tissue taken away. If more tissue is removed in such cases and good union is obtained, the introitus vaginæ is made too small.

When the sides of the laceration are drawn outward and the pelvic floor is prolapsed, and the distance from the meatus urinarius to the anterior portion of the sphincter ani is increased to an abnormal degree (see Fig. 5), the denudation should be made high enough on either side to make sure, if possible, to unite the loose ends of the bulbo-cavernosus muscle. To do this the original scar tissue should not be taken as a guide in vivifying the parts. On the contrary, the vivifying should be carried upward on either side to within an inch or less of the lower side of the vestibule. In this condition there is usually prolapsus of the posterior vaginal wall, and when such is the case, the denudation should be carried upward nearly to the highest point on the prolapsed portion of the vaginal wall. (See Fig. 5.)

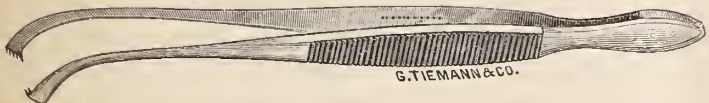


Fig. 10.

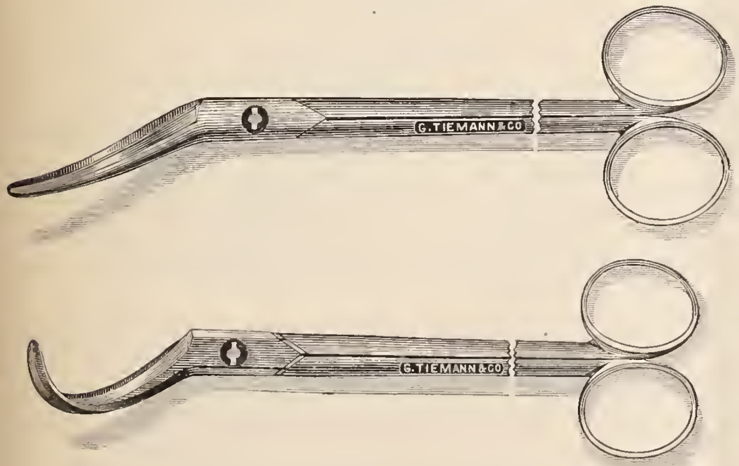


Fig. 11.

The instruments for denuding the parts are a number of sponges fixed in holders, a tissue forceps (see Fig. 10), and Emmet's curved scissors, four in number, two with lesser curves and two with greater. (See Fig. 11.) These instruments can not be described; they must be seen to be appreciated.

The method of operating is as follows: The patient is placed upon the operating-table in the lithotomy position; an assistant on each side holds the limb in the flexed position with one hand, while with the other he separates the labia to fully expose the parts; the operator, seated in front of the patient, seizes the tissues with the forceps on the left side as high up as the denudation should extend, and with

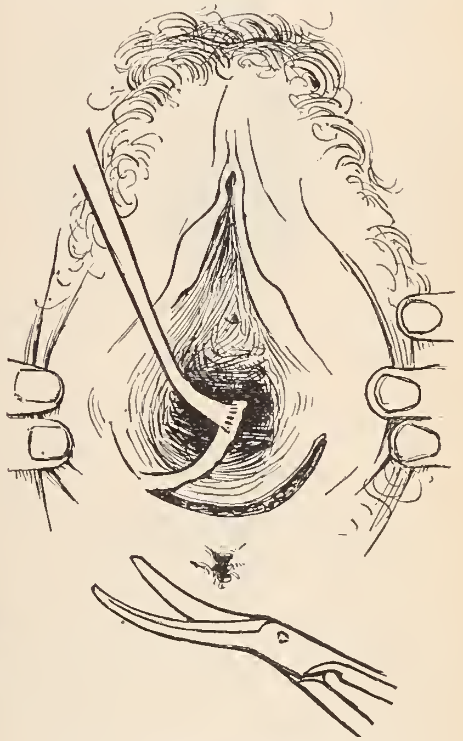


Fig. 12.—First step; denudation begun.

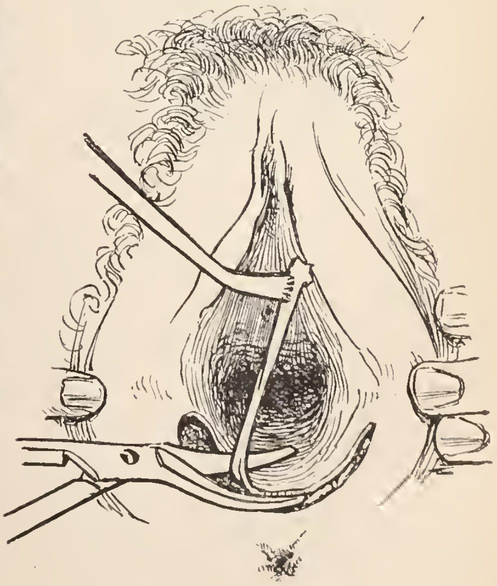


Fig. 13.—Second step; continuing the strip.

the scissors removes a strip at the junction of the skin and mucous membrane across to a corresponding point on the right. The end of the strip should be left attached, the other scissors taken, and the strip continued back to the left again. In this way the continuous strip may be taken out from one side to the other and back again until the whole surface is denuded. The three figures will give a better idea of the mode of procedure than a description.

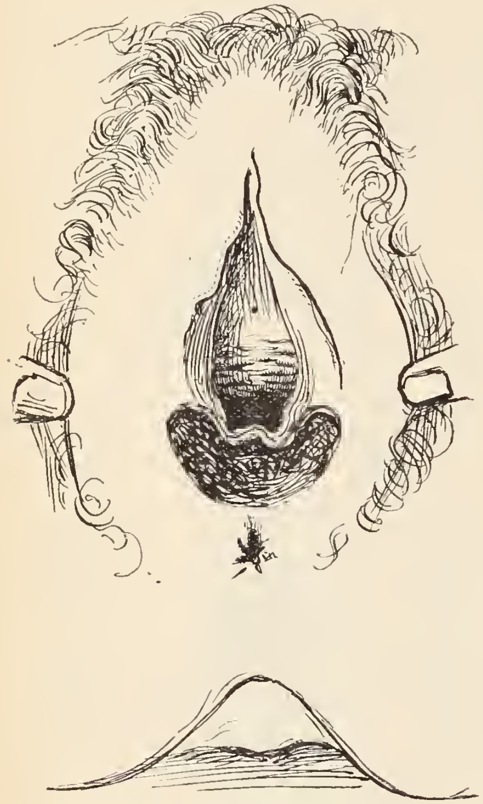


FIG. 14.—Vivifying complete.

In case there is prolapsus of the vagina, and it is therefore necessary to carry the denuding high up on the vaginal wall, the scissors with the greatest curve should be used at that part of the procedure.

When the whole surface has been denuded in the manner described it is necessary to make sure that the edges of the wound are straight and alike on both sides, and that the surface is smooth. This can be accomplished by causing the assistants to put the parts upon the stretch, when careful sponging will show any irregularity which needs to be trimmed off. By passing the finger over the fresh surface, any scar tissue that remains can be detected by its density and resistance compared with the softness and elasticity of the normal tissue.

At this stage of the operation attention should be given to hæmorrhage. If there are any spurting vessels in the wound they should be controlled by suture or ligature. Fortunately, when such vessels are encountered they are generally at the upper margin of the wound and may be controlled by passing a fine suture through the mucous membrane of the vagina under the vessel and then tying tight enough to stop the bleeding. This has been already noticed under the head of general observations.

Next in order comes the introduction of the sutures, and just here it may be stated that for all plastic operations I use silk sutures prepared as follows: The ordinary braided silk is immersed five or six hours in wax containing six per cent. of carbolic acid and six per cent. of salicylic acid. The wax is kept all the time at a temperature high enough to liquefy it. This long immersion in the melted wax is necessary to thoroughly saturate the silk. When this is accomplished, the silk is drawn through a carbolized sponge to remove any excess of the wax. It is then put on a reel which is placed in a close-stoppered bottle and kept until required. Nos. 5 and 7 are the sizes used; No. 7 for the lower one and No. 5 for the upper sutures. The needles employed are the ordinary darning needles found in the dry-goods stores, ranging in length from two inches and a quarter to one inch and a half. The larger needles are armed with the No. 7 thread and the smaller with No. 5.

To manipulate these needles it is necessary to have a suitable forceps, and for this I have devised the instrument represented by Fig. 15. It is a double forceps. The central portions of the two blades which form the handle are made of spring steel. The halves cross each other at about an inch from each end to form the jaws. At one end there are three grooves which receive the needle and hold it at an acute, obtuse, or right angle, whichever the operator may require. The other jaw, which closes over the grooved one, is file-faced, which keeps the needle from slipping through the grooves when pressure is made upon it. The jaws of the other end are copper-faced and are used to grasp the point of the needle in drawing it through. The elastic spring of the handle portion opens the jaws at each end, the needle is introduced into the desired groove, the handle is grasped, which closes the jaws and holds the needle perfectly immovable, no matter how much pressure may be brought to bear upon it. When the jaws are closed there is a stop-catch that holds the two halves of the handle together and keeps a firm hold upon the needle. The needle is carried into the tissues held by the grooved and file-faced jaw; it is then unfastened by drawing back the catch, the forceps is reversed, and the point of the needle seized in the copper-faced jaws and withdrawn. The advantage of the copper-faced jaws is that they seize the point of the needle firmly enough to draw it through the tissues without injuring the point; a valuable feature in such an instrument.

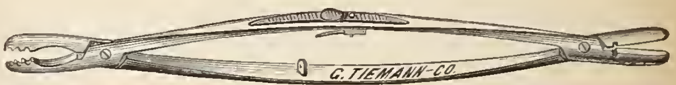


FIG. 15.—Needle forceps.

The sutures are introduced as follows: The needle—placed in the forceps at right angles to it—should be entered in the skin exactly at the edge of the wound at the lowest external angle of the denuded tissue. It is then passed outward deep into the tissues, then curved round in the tissues in front of the rectum and deep into the tissue of the other side, and made to emerge at a point corresponding to the one where it was entered. If this is properly done, no part of the suture will be seen. Its position in the tissues will be as represented in Fig. 16. The dotted line represents the suture which describes a circle, and the straight line shows the sides of the wound as they are brought together where the suture is tied. Sometimes where the tissues are rigid it is difficult to introduce the first suture with one sweep of the needle. It is then better to pass the needle in through half of the vivified portion, to draw it out and re-insert it at the same point, and to carry it round through the other side. If there is sufficient tissue between the base of the vivified part and the rectum, the second and third sutures may be introduced like the first—each one being passed at a higher point. The fourth suture (see Fig. 17) is introduced through the side. It is then carried through about three eighths of an inch of the vivified portion of the vaginal wall, and then passed through the other side. The last suture is passed through both sides, as shown in Fig. 19, the position of the sutures being viewed in profile.

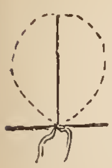


Fig. 16.

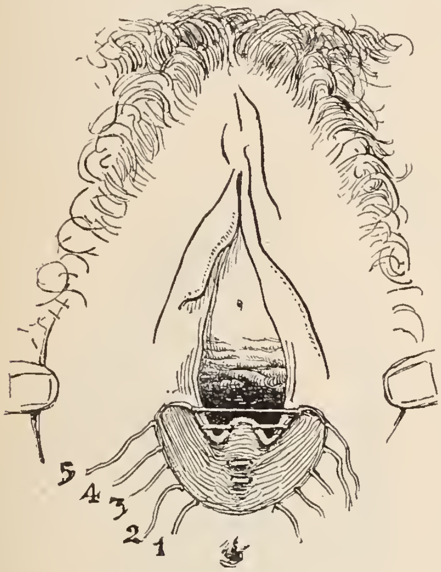


Fig. 17.—The stitches in place.

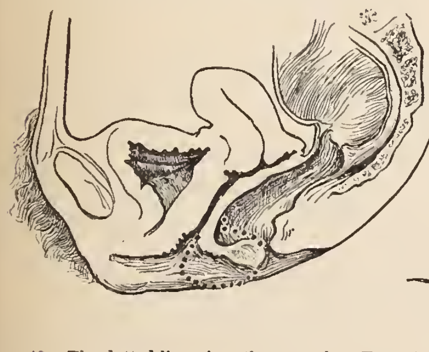


Fig. 18.—The dotted line gives the normal location of perineal body.

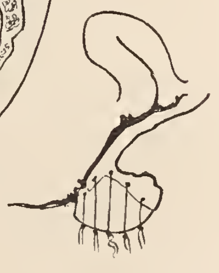


Fig. 19.—Perineal body restored. Profile view.

When more than five sutures are used, the fifth is passed like the fourth, only a little above it. Most operators introduce the index-finger into the rectum, to guide the introduction and passing of the needle. This should not be done under any circumstances, because, by doing so, the rectal wall is crowded forward, and is sure to be included in the suture, and, besides, it is a violation of the rules of antiseptic surgery to operate with dirty fingers.

In many cases there is very little tissue left in the perineal body after the vivifying is completed. The muscular coat of the vaginal wall having become atrophied, or torn from its attachments to the floor of the pelvis, there is only the mucous membrane left, and, when that is removed in denuding the parts, the wall of the rectum is all that is left above the skin and sphincter-ani muscle. When such is the case, the first suture only should be carried through the tissue, as already described; the rest should be introduced as shown in Fig. 17.

The great advantage of this is, that the sides of the wound are brought together in front of the rectum, the place where the perineal body should be. Furthermore, the sutures introduced in this way avoid the rectal wall—a very important desideratum, as we know from the fact that when any of the sutures are, intentionally or by accident, passed into the wall of the rectum, they cause much pain and rectal tenesmus, and greatly distress the patient, especially when the bowels move. When the sutures are all in place, the wound should be carefully cleansed of all blood-clots, and, if there is still some oozing of blood, traction should be made upon the sutures; if that controls the bleeding, the sutures should be tied in the ordinary way. While they are being tied the sides of the pelvic floor should be pushed up by the assistants, to bring the wound together.

The after-treatment and other points, such as the removal of the sutures, will be brought out in the history of the following cases:

Case of Central Laceration extending to the Sphincter Ani; Uncomplicated.—The patient, a spare, small woman, had always been in good general health. Married nine years, and had one child eight years old. Her labor was easy and rapid, and her convalescence uninterrupted, excepting that she had a leucorrhœa which began after the lochia stopped, and continued until the time when she sought medical advice. Her menses returned ten months after her confinement and one month after her child was weaned. Six years after her confinement she overtaxed her strength, and then her leucorrhœa became more profuse, and she began to suffer from backache and slight pelvic tenesmus, especially upon standing or walking. She was slightly constipated, but in all other respects was well. She sought medical advice because of these symptoms and her sterility. An examination showed the laceration, and no other injury to the pelvic floor. The posterior and lateral parts of the floor were well sustained, and there was very little separation of the sides of the laceration. There was commencing prolapsus of the posterior vaginal wall, but so slight that it was only apparent upon separating the labia and causing the patient to cough or make downward pressure. The uterus was slightly below its normal elevation, but not changed in its axis. The leucorrhœa was due to a cervical catarrh, which promptly yielded to treatment.

Five days after a menstrual period her bowels were freely moved in the morning by a dose of pulv. glycyrrhizæ comp., given at bedtime the night before. On the following morning the bowels moved of their own accord, and, an hour later, an enema of borax and warm water was used to wash out the rectum. For breakfast she had a cup of coffee and a bowl of clear beef-soup. A large vaginal douche was used of borax and hot water to cleanse the parts thoroughly. At twelve, noon, she was anæsthetized with ether, and the operation was performed according to the method already described. The bleeding was easily controlled by the sutures. A small pledget of marine lint was placed over the wound and the knees bandaged together. Soon nausea followed, but no vomiting, and late in the evening she was comfortable, having only a feeling of slight burning in the region of the wound. She took a small cup of tea, and slept several hours during the night.

Next day she had milk, soup, and gruel. The catheter was used for the first forty-eight hours, and after that, when necessary, she was rolled over upon her face, and, with a bed-pan placed under her, she urinated without further help. On the morning of the third day she took a Seidlitz-powder, and at noon an enema of castile soap and water, which moved the bowels freely and easily. After this the bowels were moved daily with an enema and she had her usual food. The marine lint was kept upon the outside of the wound for five days, changing it daily. There was no discharge from the vagina or wound. There were no vaginal injections used, and the wound was not washed at any time. In fact, after the fifth day, she had no local treatment. On the eighth day the sutures were removed in the following way: She was placed in Sims's position on the bed; the nurse separated the nates, which exposed all the sutures without making any traction upon the parts; each suture was seized with a forceps, and, with the tenaculum blade of the scissors, one side of the thread was caught up and divided. Fig. 20 shows the scissors used for the removal of sutures. It answers the purpose well, and guards against clipping off both ends and leaving the suture in the tissues, an accident which not unfrequently happens. This method of removing the sutures is very much simpler than trying to remove them with the patient upon the back.

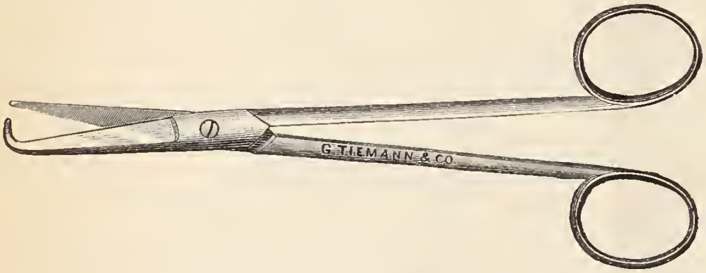


Fig. 20.—Scissors for removing sutures.

The patient was kept in bed until the twelfth day after the operation, but during that time she was permitted to change her position from the back to either side without help. On the thirteenth day she was permitted to sit in a chair, and on the fifteenth day she was permitted to begin to walk.

Two months after the operation she was examined, and the space between the rectum and vagina was found to be normal to the touch, i. e., the lines represented by the lower portion of the posterior vaginal wall and the outer surface of the pelvic floor, running from before backward, formed an angle represented at Fig. 21.

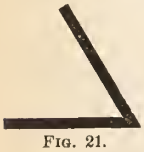


Fig. 21.

Furthermore, when the introitus vaginæ was retracted with a Sims's speculum and the instrument removed, the muscles promptly contracted and firmly closed the vagina, showing that the muscles had been restored. This I consider to be the only reliable evidence of the success of this operation.

OPERATION FOR LACERATION EXTENDING THROUGH THE SPHINCTER-ANI MUSCLE.

In this injury the laceration frequently extends upward through the posterior vaginal and anterior rectal walls. When such is the case, it is necessary to restore these parts down to the sphincter ani before the operation is performed for the restoration of the sphincter and perinæum. It complicates the operation and increases the liability to failure, if there is any laceration of the recto-vaginal walls when the final operation is performed; hence, I urge the primary operation when there is any need for it. In the primary operation, the tissues of the vaginal and rectal walls on each side of the laceration should be carefully denuded, well outward upon the vaginal side, with the object of obtaining as broad surfaces as possible. Silk sutures are introduced with a round-pointed needle, such as Emmet uses for vesico-vaginal fistula. The needle should be entered at the edge of the vaginal mucous membrane, curved round into the muscular coats of the vagina and rectum, and brought out exactly in the margin of the rectal mucous membrane. Fig. 22 represents the vivified tissues and the sutures in place before being tied.

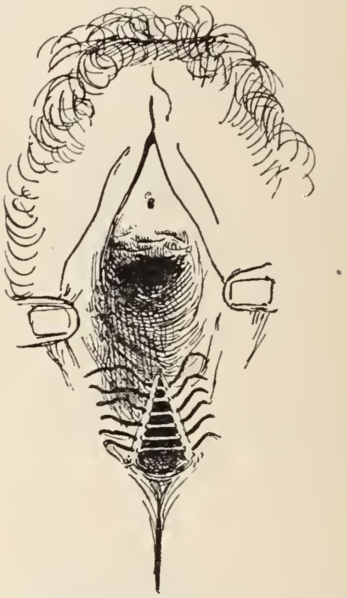


Fig. 22.—Restoration of the recto-vaginal septum.

The sutures should be not more than an eighth and a sixteenth of an inch apart. They should be removed on the eighth day, and one month allowed to elapse before the next operation is performed, in order to give the parts a chance to become firmly united.

(To be concluded.)

CONGENITAL FISSURE OF THE STERNUM.

By FRANK MADDEN, M. D., Brooklyn,
MEMBER OF THE MEDICAL SOCIETY OF THE COUNTY OF KINGS; DEMONSTRATOR OF ANATOMY, LONG ISLAND COLLEGE HOSPITAL.

While engaged in the examination of an applicant for the Brooklyn Life Insurance Company, I discovered the following anatomical anomaly, which is of sufficiently rare occurrence to warrant its being placed on record:

The subject of this malformation being very diffident, and shrinking from publicity, it was only after considerable persuasion that he consented to allow a photograph of his body to be taken, which, after all, gives but an approximate idea of the original.

The three-quarter position was found to afford the best view of the case, for the full face or front view rendered the shading so slight that it failed to represent the actual amount of depression of the skin and other soft structures covering the fissure.

Careful examination developed the following facts concerning his history and present condition:

Aged forty, born in Sweden, married, and by occupation a tailor; height, five feet seven inches; weight, one hundred and fifty-two pounds; measured around the chest, upon deep inspiration, thirty-six inches, and deep expiration, thirty-three inches and a half; girth of waist, thirty-one inches; respirations, twenty a minute; pulse, while standing, 72, while sitting, 66 a minute. Fairly well developed, and apparently performing all his functions normally. His family history is highly satisfactory in all respects.

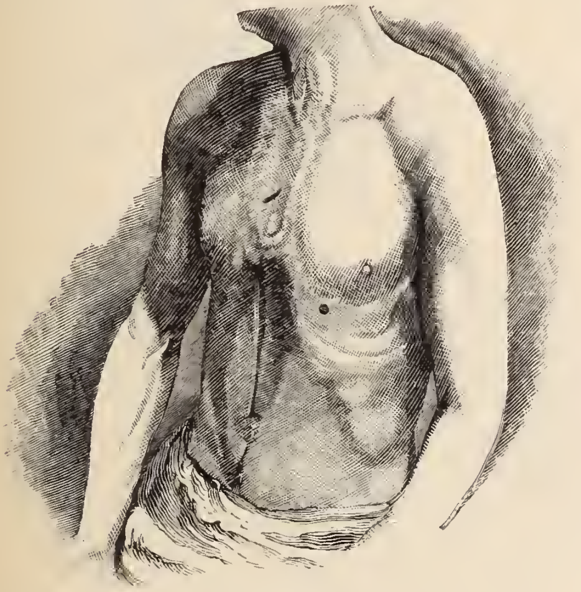


FIG 1.

. There is a total absence of osseous structure in the middle line of the sternum, leaving an irregular, oblong space measuring 13 cm. ($5\frac{3}{8}$ inches) from the top of the sterno-clavicular articulation to the lower border of the fissure, where the two lateral halves come together, and with a varying width of from 3 cm. ($1\frac{3}{16}$ inch) to 5 cm. (2 inches). There does not appear to be any deficiency in the bony structure, but a simple non-union of the two sides—i. e., were the two pieces united they would be equivalent in width to the complete bone.

In the diagrammatic drawing the U-shaped opening was carefully measured, and represents the actual amount of separation existing between the two halves of the bone.

From the lowest point of this fissure, where the two pieces of the sternum unite, there is a well-defined and distinct cicatrix involving the integumental coverings and extending down to the umbilicus. This cicatrix is almost directly in the median line, being somewhat puckered or radiated around the lower end of the opening, but a smooth line from there to the umbilicus.

When minutely questioned in regard to any former injury or operation that might account for this cicatrix, he replied that he was "born so," and that his mother had told him he had had a "sore" there until he was two years old. By this "sore" it was evidently meant to designate that portion of the cicatrix at the lower border of the fissure which did not fully unite until the time stated. He positively denies any injury or operation, and states that he is now, and always has been, in the same condition as far back as he can remember.

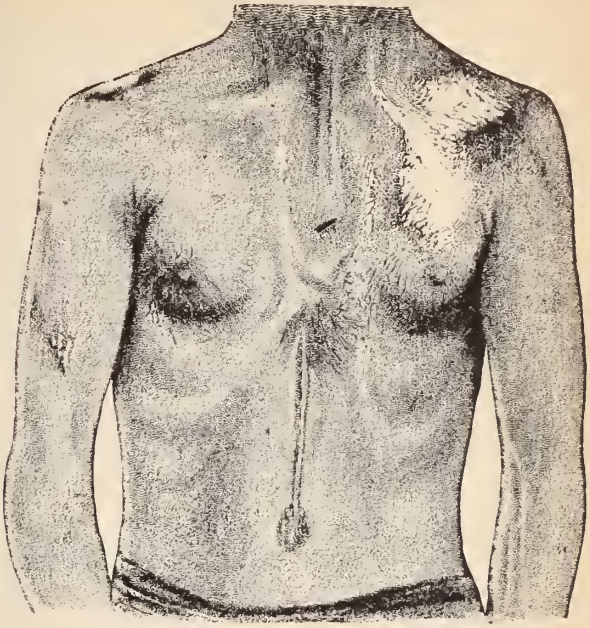
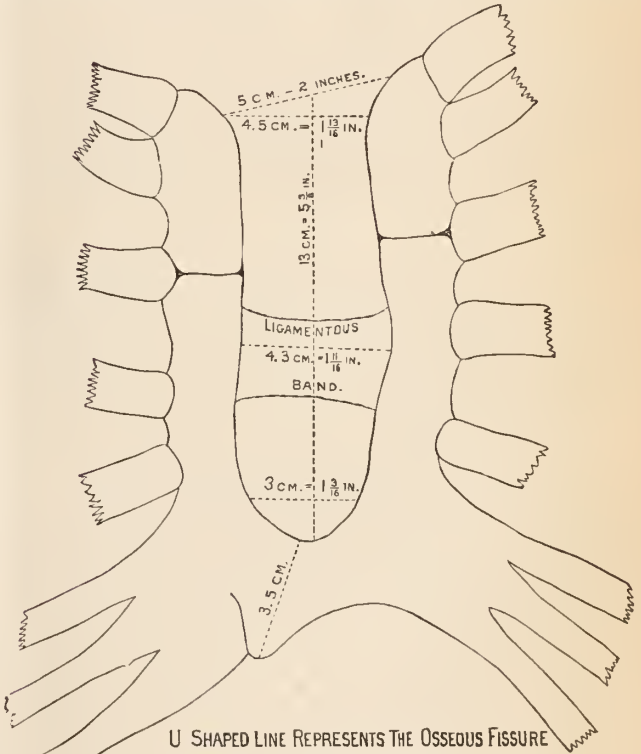


FIG. 2.



5 CM. = 2 INCHES.
4.5 CM. = $1\frac{13}{16}$ IN.
13 CM. = $5\frac{3}{8}$ IN.
LIGAMENTOUS
4.3 CM. = $1\frac{11}{16}$ IN.
BAND.
3 CM. = $1\frac{3}{16}$ IN.
3.5 CM.

U SHAPED LINE REPRESENTS THE OSSEOUS FISSURE ACCURATELY MEASURED.

FIG. 3.

The two lateral segments of the bone, with which the costal cartilages of the ribs articulate, unite below at about the point where the costal cartilages of the sixth and seventh ribs join the sternum. There is a marked depression of the skin covering in the fissure of the bone, and in the bottom of this lower portion of the opening can be seen distinctly the pulsation of the heart—i. e., probably the right ventricle.

There is also at the junction of the lower and middle thirds of the cleft an apparently firm aponeurotic or fibrous bridge of tissue, which can be felt under the integument at this point, extending across from side to side from the posterior surfaces of the two halves of the bone, and about an inch in width vertically. It seems to be a ligament acting as a brace and girder, preventing the two segments from spreading laterally, or placed there to afford better protection to the base of the heart, which is beneath it. Above and below this point there seem to be only skin and superficial fascia covering the anterior mediastinum.

The sterno-hyoid and sterno-thyroid muscles arise by two muscular slips, one from each half of the bone, and stand out very prominently when the head and neck are fully extended, and are also quite conspicuous during the ordinary respiratory movements. The sterno-cleido-mastoid muscles arise from each side respectively, the sternal origin being limited to the upper portion of the bone upon either side.

The ensiform appendix is very firm and deviates to the right side. The black points in the accompanying drawings mark the location of the heart (base and apex) as made out by percussion and auscultation.

This case is very similar (almost the counterpart) to that presented by the late Dr. Groux, which was reported upon at a meeting of the Brooklyn Anatomical and Surgical Club, November 18, 1878, by Dr. Charles Jewett, and published in the "Proceedings of the Medical Society of the County of Kings" for January, 1879. As many of the readers of the present article may not have access to Dr. Jewett's report, which contains a full and thorough *résumé* of the literature touching upon this interesting and rare anomaly, the following extracts are here appended for purposes of comparison:

"Dr. Groux died October 15, 1878, at the age of forty-five years. The autopsy was made October 17th, by Dr. Henry Riedel, of this city. Professor J. C. Dalton, of New York, and a large number of other medical gentlemen were present. Our president, Dr. L. S. Pilcher, Dr. G. W. Baker, and the reporter were among the number.

"Before opening the thorax, the trachea was ligated, to prevent displacement of the heart by collapse of the lungs.

"An incision through the skin and superficial fascia opened directly into the anterior mediastinum. No other structure bridged the space between the lateral halves of the bone.*

"The heart was found normal in size and shape, and normally situated, except that the position was slightly higher than usual, the apex presenting at the level of the upper border of the fifth rib. The right auricle lay wholly to the right of the median line. The position of the right ventricle corresponded precisely with that of the pulsating tumor described in the above report.

"The anatomical appearances of the malformed bone are well displayed in the accompanying figure. Were the lateral halves united, a slight deficiency in width would be seen at the upper portion of the manubrium, perhaps one-half inch. The lower segment of the gladiolus would also be found somewhat smaller than usual. Otherwise there is no deficiency of bony substance.

"It will be seen that the articulations of the fifth, sixth, and seventh costal cartilages deviate somewhat from their normal relations to the lower segment of the gladiolus. While the fissure divides the entire bone, the lateral portions of the lower segment of the gladiolus articulate with each other. Each articular surface is covered by a cartilage, and the two parts of the bone are bound together by external ligamentous bands. The articular cartilages of this joint blend below with the ensiform appendix.

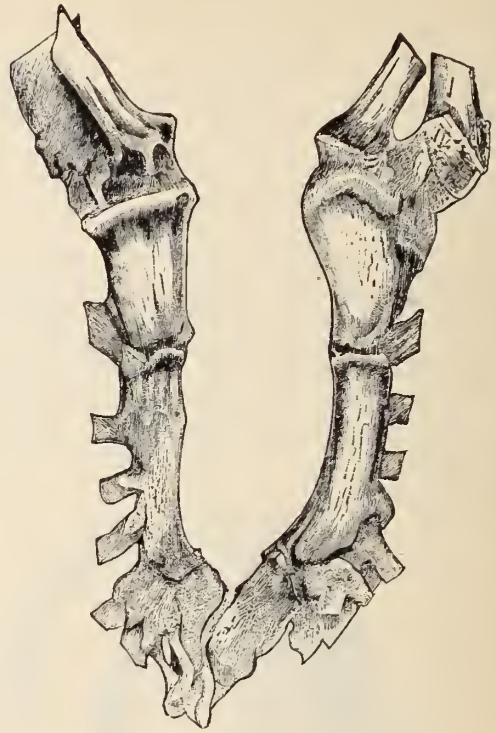


Fig. 4.

"The vertical depth of the fissure from the level of the sterno-clavicular articulation to the bottom of the cleft is four inches.

"Width at the level of the first costal cartilage, one inch.

"Width at widest part, 1·4 inch. . . .

"Among similar cases of malformation or absence of the sternum that I have been able to collect are the following:

"In the 'American Practitioner,' October, 1878, Dr. J. T. Hodgen, of St. Louis, reports a case of congenital fissure of the sternum, with exstrophy of the heart. The heart was wholly outside of the thorax. The integument was continuous over the fissure, except an opening in the median line, through which the vessels passed. The child died on the fifth day after birth. The sternum in this case presented a U-shaped cleft, extending down to a point opposite the articulation of the fourth rib with the sternum. Width of the opening, one inch.

"Dr. A. M. Slocum ('Trans. of the Coll. of Phys. of Phila.,' 1860, iii, N. S., p. 310) describes a case of congenital fissure of the upper half of the sternum in the case of a woman twenty-five years of age. Fissure filled up with a strong ligament and covered with the common integument. Vertical depth, three inches; ordinary width, one inch and a half.

"Professor Abbott ('Mem. de la soc. de biologie,' tome iv, 1 sér., p. 163) relates a case of absence of sternum in an adult negress, married, and the mother of three perfectly developed children.

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* "The Committee of the New York Pathological Society reported that this space 'was apparently covered with a strong subcutaneous fibrous sheet of aponeurosis.'"

"Dr. Otto Obermeier (Virchow's 'Archiv,' 1869, xlvi, pp. 209–217) says that several cases of bifid sternum are to be found in the literature known to him—few in adults—and gives valuable bibliography.

"Professor C. L. Ford writes that the Museum at Ann Arbor 'contains a sternum with an opening in the middle, of small size, and another of less width.'"

It will be seen by comparing the two cases that there is a marked similarity, the only difference being that of size, with one exception, and that is that in the present case there was also a failure of union in the soft parts, as well as in the osseous structures, the former of which did not exist in the case of Dr. Groux.

Even in this case the failure of union in the soft parts in the median line can only have involved the superficial structures, skin and superficial fascia, because had it extended through all the soft parts of the abdominal wall in front—i. e., the aponeuroses of the external and internal oblique, transversalis, and peritonæum—there would have been a history and physical evidence of a former protrusion of some of the abdominal or thoracic contents, of which there is not at present the slightest indication.

This defect is due to imperfect fœtal development and a failure of union in the two primitive cartilages from which the osseous sternum is formed, and in this case there is also an imperfect union of the ventral plates. We see the same imperfection quite frequently in hare-lip, which is simply a failure of union of the soft parts in the median line, often extending to the osseous structures beneath, the superior maxillary bones. Spina bifida and exstrophy of the bladder are other examples of the same defective fœtal development and failure to unite in the median line; but the non-union of the sternum in the median line, leaving a complete fissure, is one of the rarest forms, as will be seen from Dr. Jewett's article, in which he notes all the principal cases reported.

SOME NEW CONSIDERATIONS ON THE PATHOLOGY OF DIABETES MELLITUS,

WITH THE GROSS AND MICROSCOPICAL FEATURES FOUND IN A RECENT NECROPSY.*

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It seems almost impossible, if not absolutely absurd to attempt, to say anything new upon the subject of diabetes mellitus, or glycosuria. But a careful study of the microscopic changes of the glandular organs removed from a diabetic subject, and an analysis of them, in the light of our present physiological, experimental, clinical, and pathological data, suggests some new or modified points of interest. It has developed a new view of diabetes, which, it is hoped, may be found tenable, and be more fully verified, by the addition of other necropsies. For, should this theory become substantiated, it certainly decides more positively the line of treatment. It will also enable us to strike directly at cause and effect. But it especially emphasizes the importance of the early recognition of the disease, and positively determines the necessity of instituting the proper treatment from the very beginning.

Diabetes mellitus is said by some at least, if it is not generally believed, to be most frequent in the higher stations of life or among the well-to-do class of people. It is a noticeable fact that diabetes is especially frequent among the Jewish race, and strikingly so in wealthy Jewesses.

Consequently it would appear that excesses—and by this is meant a physiological increase in nutritive material, which tends to keep the liver or hepatic cells continually overworked — should be considered the starting-point. This condition may result from eating too freely of hydro-carbonaceous substances, either alone or in conjunction with the proteids, both of which may tend to materially impair the physiological activity of the hepatic cells, and thus excite a condition which renders them incapable of performing their normal work. Overcharging the portal blood with glucose or cane-sugar has been found, by actual experiment, to be followed by glycosuria.

The experiments of Pavy show that oxygenated blood injected into the portal circulation produces super-oxygenation of it, which apparently increases the amount of work on the part of the liver, and is followed by glucose in the urine. A number of similar experiments could be cited, and also that of Schiff, who excited glycosuria by direct galvanization of the hepatic substance, as proof of the primary trouble being located in the liver; but that of Pavy and the introduction of sugar into the portal blood appear to point more directly to the solution of the mystery.

From these observations it seems reasonable to suppose that excessive imbibition of nutritive elements into the portal circulation must, of necessity, call for a super-oxygenation of the portal blood; and in this way additional work is called for on the part of the hepatic cells; consequently the capillaries are dilated to furnish the necessary material to carry on the excessive metabolism; and in this way this peculiar disease may be and is developed by material processes as well as experimentally. It may be that the increased demand made upon the liver is transmitted by the sensory filaments of the sympathetic to the hepatic medullary center, which produces either deficient or excessive stimulation as the case may be, with a like result transmitted back to the liver, which is followed by incomplete or undue activity on its part, instead of just the requisite response and a complete metabolism.

This theory is quite as much in keeping with physiological laws as tracing its source to indefinite and varying cerebral lesions, which, in many cases, are wholly absent. Not that cerebral lesions may not in some cases interfere with the nervous mechanism of the liver and bring about this same change in the capillaries and hepatic cells, resulting in incomplete or excessive transformation in the liver. In traumatic diabetes the tendency is to recovery, which, as in experimental diabetes, tends to prove the necessity of a surcharging of the portal system with nutritive materials to produce permanent diabetes. In proof of this view may be cited limitation, if not absolute restriction, of the diet, with a regulation of the vascular system, which, in many cases, causes a marked diminution of the glucose in the urine, and in some its total disappearance, while a neglect to observe these laws almost invariably increases the quantity.

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* Read before the Clinical Society of the New York Post-Graduate Medical School and Hospital, January 17, 1885.

The case recorded by Brunton, in which the glycosuria was directly traceable to the irritation of a tape-worm, is a case in point, substantiating the view that the primary disturbance to the nervous system is that of peripheral irritation of the sensory fibers of the sympathetic, transmitted to the medulla, and then reflected back to the liver, because the removal of the parasite was almost immediately followed by a permanent disappearance of the sugar from the urine.

It may be, however, that the enormous appetite which is sometimes produced by a tænia was the cause of surcharging the portal system with nutritive material, and thus produced the disease. In either case, the nervous irritation was peripheral and not central.

The frequent occurrence of temporary glycosuria in pregnancy is explained by the utero-gestation causing the well-known peripheral irritation of the sympathetic system, and also by throwing more work upon the liver; the same irritation exists during lactation, but is especially marked when, for any reason, the flow of milk is suddenly arrested, which causes increased peripheral irritability of the nervous system, and at the same time throws more work back upon the liver. This explains the glycosuria in both instances, and helps to sustain the present theory of increased nutrition, hepatic lesion, and peripheral nerve-irritation. Pregnancy and arrested lactation, especially the latter, help to sustain the theory of increased work with imperfect hepatic metabolism as the primary source of diabetes.

The weight of evidence deduced from the large number of experimental and pathological lesions of the nervous system points decidedly in one direction—namely, that to produce glycosuria, even temporary in nature, there must be increased nutritive material in the blood of the portal vein.

The frequency of the renal lesion in diabetes, which is that of an epithelial metamorphosis of a peculiar and severe type, and the finding of no evidence of sugar in the blood at a recent necropsy, suggest the probability that the glucose is not produced and discharged as such into the blood, from the liver, but that sugar-forming elements are produced, which circulate in this incomplete state in the blood and on through the kidney. These sugar-producing elements, being acted upon by the renal cells, are drawn through by them as a foreign body from the blood and discharged into the uriniferous tubules as fully formed glucose; and in this way is explained the necrotic condition of the renal epithelial cells. If we admit that all forms of parenchymatous metamorphosis of the kidney are due to an increased amount of work on the part of the renal cells, this explanation offers to me a tangible reason for the very general if not constant renal lesion found in these cases. It also helps to explain the final termination of so many of these cases by a nephritic lesion, which is usually evinced by albumin and casts. The small amount of albumin may be explained upon the theory that some, if not a considerable quantity, of the glucose is produced from the albuminoids, and that the sugar represents what otherwise would be eliminated as albumin, urea, carbon dioxide, and water.

Exception may be taken to this view from the fact that sugar has been found in the blood of a diabetic patient during life. This is true; but both urea and sugar are found in normal blood, yet there does not appear to be a sufficient quantity of sugar found in the blood to account for the large amounts discharged in the urine. In regard to urea, this statement is known to be the fact.

The close relationship existing between the sympathetic nerves of the liver and those of the kidneys explains the primary dilatation of the renal vessels. The marked increase in the lumen is maintained by the hyaline transformation, which causes a permanent thickening of the vascular wall and completely destroys its elasticity. The result of this is that all power to regulate the pressure upon the glomeruli is removed, and the increased hydrostatic pressure forces a very large quantity of water through, and explains the copious quantity of urine voided.

Pathological Anatomy of Diabetes.—The author has had the opportunity of making only one necropsy in this interesting disease, the results of which will be incorporated in this description in detail. As after all wasting diseases, if of any duration, the cadaver will be found extremely emaciated. This, however, is not invariably true, for some patients do not emaciate, but die in full flesh. This occurred in two cases under my personal observation.

In the case in question the body was very thin. Rigor mortis was absent. The lower extremities were covered by an eruption, which did not disappear upon pressure. This was syphilitic in all probability. The skin was unusually pale and blanched. The panniculus adiposus was nearly absent. The muscles were thin and dry. The pericardial sac contained about half an ounce (15·5 c. c.) of clear serous fluid. The heart cavities contained a small quantity of blood and coagulum. The muscular tunic was very soft and flabby, so that the cavities collapsed and the organ became flattened when it was laid upon the table. Microscopic examination showed granular and fatty degeneration of the cardiac muscles. All the valves were free and sufficient, but, owing to the relaxed condition of the organ, could not readily be made to close perfectly to the water-test. The heart weighed eleven ounces (311 grammes).

The left lung was perfectly free in the pleural cavity. It presented nothing specially abnormal. There was, however, a slight amount of interstitial thickening of the apex and the superior portion of the upper lobe. It weighed twenty-one ounces (569·3 grammes).

The right lung was quite adherent at the apex, at which point the pulmonary tissue was indurated and presented the gross appearances of consolidation, with a tendency to the formation of cavities. The remaining portions were free in the pleural cavity. When the indurated apex was bisected, a large, cheesy-looking nodule was divided, also numerous smaller zones of like material. Two small cavities were developing. The intervening pulmonary tissue was indurated. The contents of the cheesy nodule were examined for bacilli by Dr. G. R. Elliott, but none were found. The larger of the two distinct cheesy masses had a sticky feeling, so common to gummy tumors. On macroscopic examination, it appeared to be partially encapsulated or blended with the adjacent pulmonary tissue by a fibrous band, which was lined by concentric rings of fibrillated connective tissue. The center of this neoplasm was more decidedly granular and cheesy. The surrounding pulmonary tissue showed to the unaided eye a distinct increase in connective tissue studded with numerous granular spots or bodies somewhat resembling miliary tubercles. Sections were made which included the capsule of this large mass and the adjacent tissues on both sides. This apparent fibrillated capsule, when examined under the microscope, was found to be composed of numerous layers of fibrillated connective tissue, which were irregularly interspersed with blood-vessels. Some of the tissue appeared to be of recent formation and in a state of active inflammation, and took the stain deeply, while other portions were older, granular, and degenerated, and did not stain. On the inner side of this band, going toward the center of the foci, the granular and degenerated condition became more and more decided. The structure closely adjacent to the outer portion was the vesicular tissue, but this was markedly altered. The walls of the air-vesicles were enormously thickened, being in some instances of five or six times their normal thickness. Sections from various portions of this indurated nodule showed numerous broad bands of fibrillated connective tissue in various stages of formation. In some places they presented the lively and deeply stained appearance of newly formed connective tissue; at other points they appeared to be in a state of active inflammation, being dotted with deeply stained leucocytes; in still others they were almost obliterated by the abundance of deeply stained, round connective-tissue corpuscles, with positive nuclei, and of about twice the size of the lymphoid corpuscles. The last-described regions, if viewed alone, could not be distinguished from a round-cell sarcoma. Some of the fibrillated bands showed a slight deposition of carbon pigmentation. The yellow elastic fibers were very distinct and abundant.

In all the sections there was an unusual and marked thickening of the alveolar walls, which in many places were congested and in others quite granular.

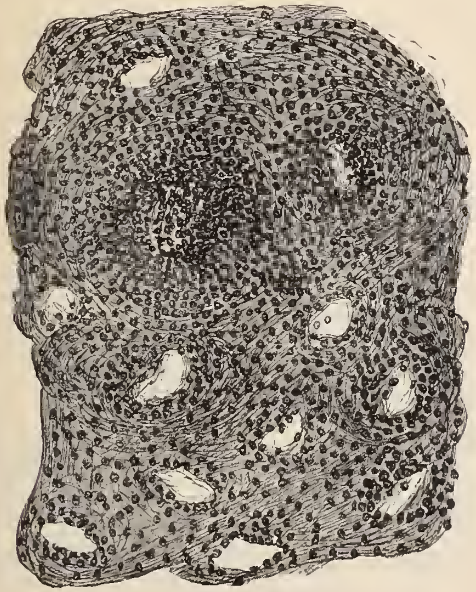

FIG. 1.

Numerous spots were found which somewhat resembled tubercle granulation, but close inspection failed to reveal any distinct tubercle tissue or giant cells with multiple nuclei. These zones were composed of this thickened tissue, and showed various changes in the alveoli, some of which were simply filled with red blood-corpuscles alone, some with fibrillated fibrin, red blood-corpuscles, and large and small desquamated epithelial or lining cells of the air-vesicles. Some were simply packed full of these desquamated corpuscles; others were filled with a granular substance which would not take the stain. All these conditions were interspersed without any reference to a uniform progressive development of inflammation. The walls of the capillary vessels were slightly thickened.

This condition undoubtedly was that of a gummatous formation rapidly approaching liquefaction and the formation of cavities. (See Fig. 1.) The numerous smaller foci were probably smaller gummata, or the nuclei of larger ones. The interstitial thickening was of syphilitic origin, and this condition is quite frequent and often mistaken clinically for tubercular phthisis. This certainly was not a tubercular process.

The interstitial induration diminished progressively from the apex to the base. The weight of the right lung was twenty-eight ounces (793 grammes). Both lungs were slightly congested and œdematous, but no more than would be expected in connection with death without special pulmonary symptoms.

Various lesions have been described as affecting the lungs in diabetic cases, particularly chronic inflammatory conditions leading to the formation of cavities; also all forms of pneumonia and tubercle with cavities; pleuritic exudations, and even gangrene.

The first thing noticed when the abdomen was opened was an unusual pallor of its contents. The colon was over-distended with gas, and contained only a slight amount of soft fæcal matter. The lower portion of the ileum, and several coils of the small intestine, were bound together and adherent to the lower border of the pelvic cavity on the right side by firmer and old fibrous bands. This binding down, however, had not to any marked degree occluded the lumen of the gut. Both the ileum and the jejunum were nearly empty, and at places so markedly contracted that at first it gave rise to the supposition that there was a stricture; but, on displacing what little gas remained in the lumen of the small intestine, the apparent stricture disappeared and a similar appearance was produced at a distant point. The stomach and duodenum were distended by considerable gas. The whole alimentary tract and all the abdominal viscera, the liver excepted, were very pale. No other abnormity was detected at any portion of the alimentary tract.

The lesions which have been described in connection with the alimentary tract are chronic catarrh, hyperæmia, thickening and tumefaction of the mucous membrane, slaty pigmentation, hæmorrhagic erosions of the stomach, and hypertrophy and muscular thickening of the stomach and the upper portion of the intestine.

The spleen was pale, and softer and larger than normal. Microscopic examination failed to show anything abnormal. It weighed eight ounces (226·7 grammes).

Little or no mention is made of the spleen in histories of autopsies in diabetic cases.

The sexual organs were not specially examined, as there was no gross change which attracted attention.

The change which has been recorded is atrophy of the testicle in some of the younger subjects.

Both kidneys were very much enlarged. The left one weighed ten ounces and a half (311·8 grammes), the right ten ounces (283·4 grammes). Their capsules were normal in thickness and non-adherent, excepting at one or two points where a large vessel connected the capsule with the underlying parenchyma. The renal surface, after enucleation of the kidney from its capsule, was perfectly smooth. Both the free and cut surfaces were very pale, and the latter looked quite granular to the unaided eye. The cortex was very much thickened, being about four times as deep as in a normal organ. The markings of the cortical arches were distinct and straight, and, by their deep color, gave evidence of apparent congestion. No cysts were found.

The macroscopic examination gave no evidence of a diffuse lesion, but all those which are common to a chronic parenchymatous metamorphosis of the kidney. On microscopic examination, the lesion was found to be located in the epithelial cells of the uriniferous tubules, and in the walls of the smaller arteries and vessels entering the Malpighian tufts. The epithelial corpuscles in every portion of the organ were in a state of advanced and extensive granular metamorphosis, each individual cell being enormously enlarged, and in most instances all evidence of a nucleus obliterated.

The process in this instance differs from the ordinary parenchymatous metamorphosis, and has by some been described as a necrosis of the epithelial elements. Regarding this lesion in the light of a necrotic process, and that of ordinary parenchymatous transformation in the light of a carious process, we have a good comparison for the two conditions. Fig. 2 shows the ordinary form, and Fig. 3 the diabetic.

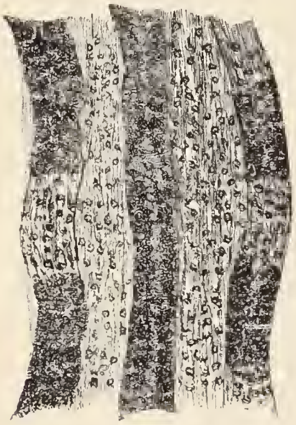

FIG. 2.

This necrobiotic process caused the tubules to become larger than normal, and in some of them all evidence of lumen had been obliterated, so that all that remained to represent the original uriniferous tubule was a space filled with necrotic epithelial cells. At other points the basement membrane of the tubules was entirely stripped of its epithelial lining.

The intertubular tissue was rendered more apparent and thickened by an œdematous swelling which, taken together with the denuded tubules, would at first lead to the supposition that the lesion was that of chronic diffuse nephritis. (See Fig. 3.) In fact, this lesion has been, and by many would be, called a diffuse nephritis. But a closer study readily shows that the lesion of the intertubular tissue is free from any inflammatory exudation or recent formations in the shape of new connective-tissue and lymphoid corpuscles. The true lesion, therefore, is a metamorphotic process of the cells, brought about by an excessive amount of work, while that of the interstitial trouble is secondary and œdematous in character and not inflammatory. None of the sections showed any granular casts in the tubules, as is sometimes the case, but an occasional hyaline cast was found.

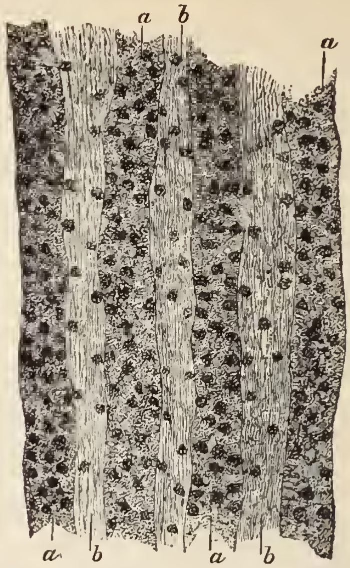

FIG. 3.—*a*, uriniferous tubules distended and occluded with necrotic epithelium; *b*, swollen, œdematous, and non-inflammatory intertubular tissue, with an occasional epithelial cell.

The walls of the small vessels were very much thickened by a process the exact nature of which has not been satisfactorily ascertained, but one that may properly be called a hyaline metamorphosis. (See Fig. 4.) This hyaline metamorphosis causes a permanent thickening of the dilated arterioles, so that they ultimately become converted into

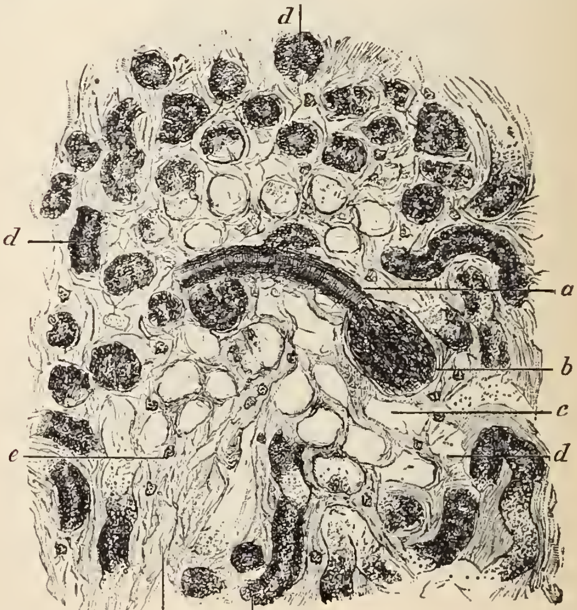

FIG. 4.—*a*, hyaline transformation of an afferent vessel; *b*, a Malpighian tuft; *c*, pavement tubes stripped of their epithelium; *d*, tubules filled with necrotic epithelium; *e*, œdematous intertubular tissue.

non-elastic tubes opening directly into the tuft, as seen in Fig. 4.

The intimate connection between the liver and kidney by the sympathetic system is offered as a solution of the primary dilatation of the arterial vessels of the kidney, which finally become thickened and wholly unable to contract, and, consequently, remain open after death, as seen in the sections and in the drawing (Fig. 4, *a*). It was also found that the lumen was of more than twice the normal size, and that this condition extended up to and even through the capsule of Bowman, until the coil of vessels was reached. This lesion was not so advanced in every vessel, but all of them were more or less involved.

This enormous thickening and loss of contractility easily explains to my mind the abundant flow of urine. The pressure exerted upon the tuft of vessels within the Malpighian capsule, or dilated or expanded extremity of the uriniferous tubule, is governed by the contractility of the arteriole just anterior to it. If for any reason this is constantly dilated, and its walls are thickened, it loses the normal contractility, and a greater volume of blood is constantly poured into the tuft of vessels. This, with the unequal strain upon the vessels of the tuft from the constantly varying blood-pressure, weakens their walls and permits of a more abundant escape of water from the blood, and, consequently, a more copious volume of urine. This view is substantiated by pathological and clinical data, for there are three other lesions of the kidney in which this or a similar transformation of the vessels is met with, and in every instance the lumen of the vessel is increased and its walls are thickened, and a copious discharge of urine is the invariable rule. These are the well-known cirrhotic or red atrophy of the kidney, the waxy kidney, and one form of chronic diffuse nephritis.

The capillaries of the glomeruli had a peculiar waxy and translucent appearance, but did not respond to the ordinary test for amyloid material.

The nuclei of the cells covering the vessels of the tuft were very indistinct and often imperceptible. The capsule of Müller was also the seat of the same œdematous thickening as was noted in the intertubular tissue. There was an absence of blood in the kidney, which may have accounted for the suppression of urine which existed before death.

In the majority of the recorded necropsies a lesion of the kidney has been noted. The organs are spoken of as being enlarged, hyperæmic, and with a hypertrophic swelling of the epithelium, most of them apparently from gross appearances. The more recent writers speak of the change in the cells as a necrotic transformation, similar to that already described.

The hilum of the kidney and the ureter presented nothing specially abnormal. The bladder was empty and contracted down to a hard ball.

Catarrh of the pelvis of the kidney and of the ureter has been spoken of as a common occurrence. Abscesses in the kidney, amyloid degeneration, and nephritic tuberculosis have been described as being found after death.

The liver was considerably enlarged and dark in color, contrasting strongly with the pallor of all the other viscera. Its weight was ninety ounces (12,551·4 grammes), with sixty ounces as the maximum weight allowed for a normal liver. It was tested for amyloid transformation, but none was detected. When cut into, it offered rather more resistance than is usually the case in a normal organ. No further macroscopic evidence of cirrhosis could be detected. The external surface was perfectly smooth, with a few spots of chronic perihepatitis. Throughout the entire cut surface there were found numerous disseminated, dark-red, degenerated-looking spots or zones of hepatic tissue, which were surrounded by what appeared to be perfectly normal liver-tissue. On microscopic examination, these red zones were found to be composed of hepatic cells in various stages of retrograde metamorphosis. In some instances the nuclei, the protoplasm, and even the outlines of the corpuscles, were obliterated by the granular metamorphosis and swelling of the epithelial corpuscles. The central portion of these zones showed the most marked degenerative changes. The destructive metamorphosis grew less and less marked as the periphery was approached, and finally blended with the surrounding liver-tissue, in which the hepatic cells were found to be perfectly normal. None of the epithelial corpuscles showed the fatty degeneration, with the formation of fat droplets, so common in the acute and diffuse hepatitis of the acute blood diseases. The intervening normal hepatic tissue will account for the long duration of the disease and the reason for improvement under proper treatment. The duration of the disease may have depended upon the rapidity of the hepatic metamorphosis. On account of the difficulty of localizing with certainty a central vessel, it was impossible to determine with positiveness at just what point of the circulation the centers of these degenerated foci were located.

Another interesting lesion was a marked dilatation of the hepatic capillaries, with a thickening of their walls, and also the development of a slight amount of interstitial tissue.

The peculiarity of this interstitial new formation was that it surrounded each individual cell, or a cluster of two or three, and ran along the walls of the intra-lobular plexuses, instead of the walls of the interlobular vessels, as is commonly the case in ordinary cirrhosis. In this respect this lesion very strongly resembled, if it was not, a syphilitic sclerosis of the liver.

This general formation of new tissue undoubtedly accounted for the resistance to the knife so noticeable when the organ was first cut into.

Fig. 5 represents very accurately the changes in the liver, as seen under the microscope. The same can be said of those showing the appearances in the lung and kidney.

The drawings were made by Dr. George G. Van Schaick, and to him is due the sole credit for their accuracy and perfection.

The thickening of the walls of the hepatic capillaries, already alluded to, may be due to a hyaline transformation similar to that found in the renal vessels.

The descriptions which have been given of the changes occurring in the liver are numerous and contradictory. The major part of them appear to be based upon gross appearances instead of minute microscopic details. The various conditions which have been found are hyperæmia, hypertrophy, congestion, increase in volume from changes in the glandular cells, cirrhosis, atrophy, amyloid degeneration, the formation of abscesses, and obliteration of the portal vein.

Marks of hepatic degeneration have been quite frequently met with, similar to those already described, together with a diminution of fat in the liver, etc.

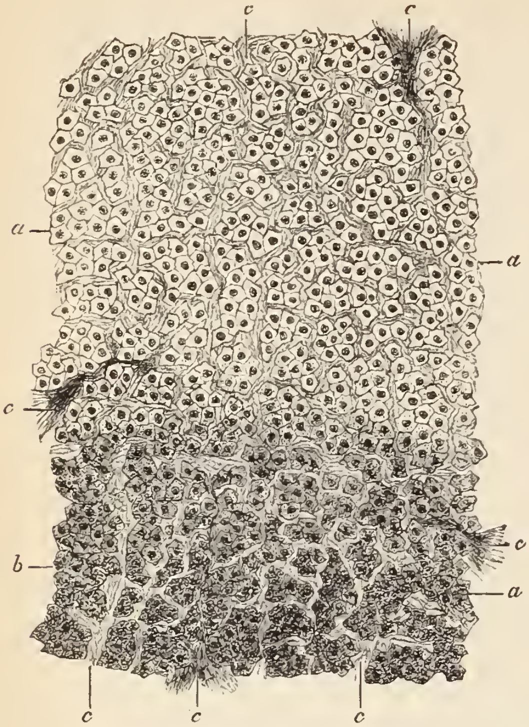

Fig. 5.—*aa*, a zone showing normal hepatic cells; *ba*, a zone showing parenchymatous metamorphosis of the hepatic cells; *c*, portal systems and intralobular cirrhosis.

In this case no special change, either macroscopic or microscopic, could be made out in the pancreas. In many of the recorded cases, however, various lesions have been found. The numerous lesions which have been recorded as found in this organ are atrophy, or atrophy with degeneration (on the other hand, it has been found small and hard), primary fatty destruction of the gland-cells, cancer, calculi, and obstruction to the duct, with cystic degeneration of the gland. In other instances it has been found very soft and anæmic.

Including all these lesions, some form of abnormity has been detected in nearly fifty per cent. of the cases. On the strength of this, some have gone so far as to locate the cause of diabetes in the pancreas.

In my case the only gross abnormal appearance in the nervous system was an extreme pallor of the cerebral substance. Microscopic examination of the medulla failed to reveal anything abnormal. The sections apparently represented a normal medulla, save for a little thickening of the vascular walls.

The almost innumerable experimental lesions which have been instituted for the production of glycosuria, either permanent or temporary, have not been cited; neither have the many cerebral and upper spinal lesions which have now and then been found in connection with diabetes. The reason for omitting them in detail is that they only prove one thing: that no constant or certain lesion has been shown to be the pathognomonic lesion in this disease. The majority of them sustain the theory that overloading and overworking of the liver are necessary for the establishment of a permanent diabetes. For, unless the super-nutritious condition of the portal blood, with a possible hepatic lesion, is present, the removal of the nervous injury is invariably followed by a disappearance of the glycosuria, while in the incurable forms of diabetes death occurs and no nervous lesion is detected, but marked lesions are found in the liver and kidneys. But, as before stated, an injury, or irritation, or undue mental impressions, may act as the spark in kindling the fire, and only in this way can the numerous lesions act, for all of them are frequently met with in cases in which there has been no appearance of sugar in the urine.

In this case the pericardial fluid, blood, and hepatic tissue were examined for glucose by Dr. Henry Rolando, house physician at the Presbyterian Hospital, who failed to find sugar in any of the samples.

The fact that no sugar was found in the blood appears to me to be strong proof that the glucose does not pass out of the liver as such, but rather in the form of sugar-producing elements, the nature of which is unknown, and that the renal cells complete the formation. This hypothesis has its analogy in the formation of urea, uric acid, etc.

The practical points of interest derived from this study are, that diabetes mellitus has for its primary cause a change in the portal blood and in the hepatic tissue and vessels; that the influence of the nervous system is secondary and not primary. Accepting this view, the line of treatment is positively defined. The excess of nutriment sent to the liver should be cut off or regulated so that the least possible work is demanded of the hepatic cells, and in this way there is a possibility of repair on their part.

The nervous system should not be neglected; it should be depressed or stimulated, as each individual case may seem to require, until its influence upon the system and the hepatic functions is brought as nearly to the normal as possible.

The vascular system also requires special attention on account of the change in the vessels of the liver and the renal arterioles. Remedies should be used which regulate the heart's action and cause its movements to remain steady. The vascular tension should be kept as even as possible. By so doing, the hepatic circulation is rendered more uniform, and less strain is brought to bear upon the vessels of the renal glomeruli, and, consequently, the work of the liver and kidneys is more evenly and perfectly performed, with less damage to these organs.

Under such circumstances repair may be accomplished, the organs restored to their normal condition, and the disease cured. This, however, can only be hoped for when the right treatment is instituted early. Therefore early recognition and treatment are essential, as it is believed that part, at least, of the sugar is finally formed and thrown out by the renal cells. Special attention should be paid to this condition, for the simple reason that a large majority of diabetic patients die from uræmia, which is secondary, and produced by the excitation of a form of renal lesion brought about by excessive work on the part of the kidneys, and commonly classed as Bright's disease.

The therapeutic considerations have not been discussed in detail, as this article is more especially confined to the pathological considerations. One observation, however, is that no specific remedies can be expected to overcome all these pathological changes.

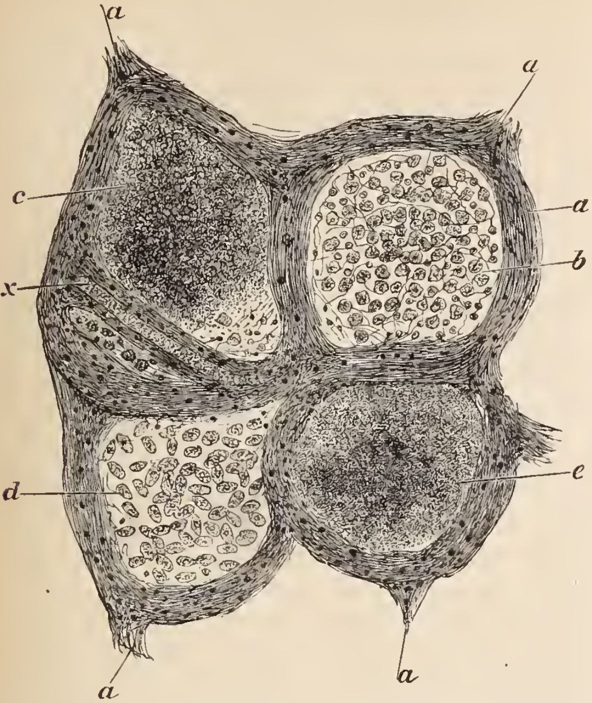

Fig. 6.—*a*, thickened vesicular walls; *b*, an air-space showing red hepatization; *c*, an air-space showing gray hepatization; *d*, an air-space showing catarrhal desquamation of epithelial cells; *e*, an air-space showing the degenerative pneumonia of syphilis; *x*, a blood-vessel between two thick bands of fibrillated vesicular wall.

The condition of the lung is of great interest and importance. It establishes positively in this case that the pulmonary affection was not tuberculous. It certainly suggests the inference that many reputed tubercular processes in the lung may have been due to a similar or independent condition.

A CASE OF CHRONIC PELVIC ABSCESS

TREATED BY ABDOMINAL INCISION AND DRAINAGE.

By JOHN SCOTT, M. D., San Francisco,
SURGEON-IN-CHIEF OF THE CALIFORNIA WOMAN'S HOSPITAL.

The following history of the case has been prepared by Dr. J. H. Todd, house surgeon:

Mrs. W. H. J., thirty years old, was admitted into the California Woman's Hospital, September 2, 1884. She had been married six years, but had never been pregnant. She menstruated at twelve years of age. When her menses first appeared they were regular, and she had but slight pain. She grew and developed very rapidly, and was excessively fond of dancing, skating, and active exercise with excitement. She soon began to have painful menstruation, with increase in the amount of menstrual discharge. These symptoms gradually increased, the pain coming on two or three days before the appearance of the discharge. At the age of seventeen she first consulted a physician, who, upon examination, pronounced the case one of retroversion of the uterus, and treated the patient for the displacement without benefit. At twenty years of age she had an attack of cellulitis, caused by taking cold from exposure on the first day of a menstrual period, with suppression of the discharge. She was confined to bed for two months, during which time she had a constant flow, not excessive but persistent. The dysmenorrhœa and retroversion remaining after she recovered from the cellulitis, she was treated by another physician. At the age of twenty-two she had a second attack of cellulitis from a similar cause, and running precisely the same course. Two years later, without known cause, she had a third attack, running a similar course. During these years she had passed through the hands of many physicians, with but temporary benefit. In 1882 her physician introduced a stem pessary, which she wore for a month with comfort and relief. A longer instrument was then adjusted, which caused excessive pain, and had to be removed immediately. An attack of cellulitis followed, confining her to bed for nine weeks. During this attack there was no hæmorrhage, as there had been in the former attacks, and she did not recover as she had recovered from them. In January, 1883, she first noticed a discharge of pus *per rectum* at the time of going to stool, which has continued constantly until now. At times the discharge is more profuse and the pain less severe; at other times the discharge almost ceases, when the pain becomes excessive, and is accompanied with fever and occasional rigors. From that date until now the pain, during the first three days of the menstrual periods, has been so excessive that nothing but morphine in increasing doses would relieve it. At present she complains of excessive pain in the region of both ovaries, now worse on the right side, radiating to the leg, the back, and the side.

She is tall, excessively emaciated, and anæmic; her power of locomotion is impaired; her nervous system is in poor condition; she has severe headaches, but sleeps well; her bowels are regular, her appetite is good, and her respiration is normal. She is found to have retroversion of the uterus, with chronic cellulitis and pelvic abscess.

Hot vaginal injections were given three times a day; Churchill's tincture of iodine was applied to the vaginal roof three times a week; and hydrate of chloral and morphine were given in sufficient quantities to relieve pain.

September 10th.—Dr. Scott and Dr. Blake made an examination under ether, but were unable to discover the opening from the abscess into the rectum, as it was situated too high. Sims's new wire speculum was used and the rectum explored for quite four inches, but no opening could be found; above the distal end of the speculum, however, pus was seen trickling down.

On the 16th the patient left the hospital, to be absent during Dr. Scott's visit to the East, but returned and was readmitted on the 23d, suffering intense pain in the region of the right ovary. Constant application of heat, an occasional hypodermic of morphine, with attention to the bowels and the nutrition, constituted the treatment until November 18th. She was then etherized, and Dr. Scott made an incision in the linea alba from one inch below the umbilicus to the pubes. When the peritonæum was opened, a tumor presented filling the right side of the pelvis, and extending beyond the median line. The omentum and intestines were closely adherent, both to the surface of the tumor and to the abdominal wall. With great difficulty a portion of the tumor was cleared by including the adherent omentum between two ligatures and cutting between them, after which the attachment of the omentum was separated with the finger-nail. The small intestines were so matted together and adherent to the tumor that it was found impossible to separate them. A stout silk ligature was then passed through the surface of the tumor, by which the upper wall was lifted into apposition with the abdominal wound, to which it was stitched as securely as possible. The patient was then turned on the side and a long, curved trocar and cannula were thrust into the abscess. Upon the withdrawal of the trocar a large quantity of extremely fœtid pus was let out through the cannula. A stream of solution of bichloride of mercury, 1 to 1,000, was thrown upon the abdominal wound during the removal of the pus. The cavity of the abscess was then washed out with a like solution, the trocar was reintroduced into the cannula, and, with a finger of the right hand in the vagina to direct them, the trocar and cannula were pushed through into the vagina. A probe was then passed through the cannula, and a French rubber drainage-tube, which had been attached to it, was drawn through the abdominal opening. One of Tait's glass drainage-tubes was then passed over the tube into Douglas's space, and the abdominal wound was closed with silver stitches. The cavity of the abscess was washed out with a 1-to-500 solution of bichloride of mercury, and it was ordered to be done every three hours with a 1-to-1,000 solution.

The patient was very low when she was removed from the table, and at 5 P. M. the most alarming collapse set in, the temperature rising to 100·3° F. while the pulse was 150 and very weak. As there was no drainage by the vagina, Dr. Scott enlarged the vaginal opening and washed out the abscess with a bichloride solution, 1 to 1,000, when the temperature at once fell to 99°, and the pulse was somewhat improved. At 9.15 P. M. violent vomiting set in, and the pulse became unappreciable at the wrist, and remained so until half past seven the next morning, when reaction took place; since then her improvement has been gradual, but steady. On December 11th she was permitted to sit up, and on the 30th she was discharged cured.

To Mr. Lawson Tait we are indebted for the wonderful improvement in the treatment of pelvic abscesses by abdominal incision and drainage, and he has abundantly demonstrated its efficiency and safety when properly performed. I have treated three cases by abdominal incision and drainage, with two complete recoveries and one death. In my first case the abscess was the result of a violent post-partum inflammation caused by getting up the third day after labor and exposure to cold. When first seen, the patient was extremely emaciated, and the left thigh so firmly flexed on the abdomen that it could not be extended under the influence of ether; and she had lain in this condition for six weeks before entering the hospital. I could define the existence of an abscess occupying the left iliac region and extending across the abdomen a little to the right side of the linea alba, but I could not detect any bulging in the roof of the vagina on either side of the cervix or behind, through which I might attempt to reach the abscess. I proposed opening the abdomen in consultation with the medical staff, but could find none to agree with me, as they considered the woman dying, and that the operation would kill her speedily. Under these circumstances I deferred the operation for nearly three weeks, when uncontrollable diarrhœa and vomiting set in, with rigors, high temperature, and profuse sweating, and the patient begged for an operation. On opening the abdomen, I was distressed to find that perforation of the bowel had taken place, and fæces came away with the contents of the abscess—a casualty which might have been avoided had I operated earlier. For a fortnight the fæces came through the wound, when the perforation closed, and the patient made a rapid and complete recovery. In my second case the abscess was an enormous one. The patient had, two or three days before the operation, some severe rigors, followed by intense pain in the abdomen, and symptoms of peritonitis. On opening the abdomen, the intestines were so matted together and inflamed that it was exceedingly difficult to get at the abscess, which had very thick walls, consisted of a number of pus cavities, and dipped down low behind the uterus, rendering it very difficult to evacuate it entirely, although the patient was rolled over nearly on her face and the cavity washed out, by a Davidson's syringe, with carbolic acid and water. I think the operation was delayed so long that perforation of the abscess-wall had taken place, giving exit to part of its contents into the abdominal cavity, and, unfortunately, I trusted to abdominal drainage only, and did not open into the vagina as well. She died on the second day.

My third case is the one above detailed, and I can not but congratulate myself on having made the vaginal opening, for not only was the drainage perfect and her recovery complete, but I noticed the steady disappearance by absorption of the cellulitic exudate which filled the entire roof of the vagina and rendered the uterus perfectly immovable. Two months have not yet elapsed since the operation, and already more than half the exudate has been absorbed, the uterus is movable, the patient has gained twenty pounds in weight, and her locomotion is perfect. These details may appear trifling; but to all who are conversant with the unsatisfactory treatment of pelvic abscesses on the old plan—the very imperfect results attained, and the slow, lingering convalescence, with, after all, remaining exudate, and impaired mobility of the uterus—no detail can be trifling or unimportant. In Mr. Lawson Tait's description of the operation he makes no mention of a counter-opening by the vagina and *through-drainage.* Nor does Dr. Emmet allude to it in referring to the operation in the third edition of his book. I can not help attaching great importance to the vaginal opening. I do not imagine that it entails any additional danger, but I should like to ascertain through the "New York Medical Journal" whether other gynæcologists have practiced it.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Micro-Chemistry of Poisons, including their Physiological, Pathological, and Legal Relations; with an Appendix on the Detection and Microscopic Discrimination of the Blood. Adapted to the Use of the Medical Jurist, Physician, and General Chemist. By Theodore G. Wormley, M. D., Ph. D., LL. D., Professor of Chemistry and Toxicology in the Medical Department of the University of Pennsylvania. With Ninety-six Illustrations upon Steel. Second Edition. Philadelphia: J. B. Lippincott & Co., 1885. Pp. 741. [Price, $7.50.]

Étude sur les scléroses encéphaliques primitives de l'enfance. Par le Dr. H. Richardière, Ancien interne laureat des hôpitaux, etc. Paris: G. Steinheil, 1885. Pp. 110.

Des ruptures utérines pendant le travail à terme; pathogénie et traitement. Par le Dr. R. Labusquière. Paris: H. Lauwereyns, 1884. Pp. 95.

Du traitement chirurgical des néoplasmes mammaires. Par le Dr. Émile Valude, Ancien interne des hôpitaux, etc. Paris: G. Steinheil, 1885. Pp. 153.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, APRIL 11, 1885.

DR. PLAYFAIR ON LACERATION OF THE CERVIX UTERI.

A recent number of the "Medical Times and Gazette" contains a clinical lecture, by Professor Playfair, on Emmet's operation, or, as it is barbarously styled, "trachélo-raphé." But this is a minor blemish. It would be unfair to examine too critically the statements of a gentleman who has not only been an honored guest in this country, but an author to whom we have felt grateful because of his championship of American gynæcology; but in reviewing Dr. Playfair's lecture one can hardly avoid the inference that he has not grasped in its entirety Dr. Emmet's idea of the lesion and its repair, or else that he has chosen to touch lightly upon a most important aspect of the matter.

It appears strange to the American reader not only that a writer should feel called upon to assume an apologetic air when referring to this topic, but that he should call attention to the fact that the operation for laceration of the cervix has been "lauded as a new panacea for all the ills which female flesh is heir to." This latter theory has gone out of fashion among us, and indeed it was never entertained by the most enlightened of our gynæcologists, so that it is not easy to see how its existence could ever have been inferred from the writings of either Dr. Emmet or his most enthusiastic followers.

Dr. Playfair describes quite graphically one condition for which the operation is performed, and is very judicious in his remarks as to the selection of proper cases, but he might have referred to other results of the lesion than the so-called "ulceration." A word concerning preparatory treatment, upon which Dr. Emmet lays so much stress, would not have been amiss. It is gratifying to see that such a fair-minded foreign observer has taken the trouble to study and adopt the operation, and we trust that his precept and example will lead his more skeptical *confrères* to at least give the matter their thoughtful attention.

THE HIGH OPERATION FOR STONE.

It is a general impression among medical readers that suprapubic lithotomy is not only a very rare, but also an unwarrantable operation—one, in fact, which belongs to the Dark Ages of surgery. Occasionally some American writer does put in a plea for its revival, but we seldom hear of the "high operation" being extensively practiced by any single surgeon. Dr. Dulles ("American Journal of the Medical Sciences," July, 1875, and April, 1878) has presented some strong arguments in its favor, and Petersen ("Archiv für klinische Chirurgie," xxv) has also commended it. Dittel, in a recent number of the "Wiener medicinische Wochenschrift," advocates the high operation in cases in which the bladder contains very large, hard, or irregular calculi, or foreign bodies the size and shape of which are such that they can not be removed by the perineal section. He appears to consider the operation less dangerous than that by the perinæum, since it spares important organs. Ebermann ("St. Petersburger medicinische Wochenschrift") has had an extended experience with lithotrity in women, and unhesitatingly condemns "epicystotomy" as a dangerous and unnecessary procedure. Yet the latter is not an uncommon operation in Professor Billroth's clinic. Under the conditions imposed by Dittel, we have no hesitation in commending the operation, but we should be sorry to see it adopted in the case of any but male patients.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 7, 1885:

DISEASES.	Week ending Mar. 31.		Week ending Apr. 7.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	5	1	5	1
Scarlet fever	92	19	93	12
Cerebro-spinal meningitis	7	6	4	5
Measles	154	18	214	22
Diphtheria	78	23	64	35

Small-pox is reported to have broken out in Montreal, having been carried to that city, it is said, by the conductors of parlor cars from Chicago.

The Honorary Degree of LL. D. was conferred upon Dr. Austin Flint, Jr., of New York, by the Jefferson Medical College, of Philadelphia, at the annual commencement, held on Thursday, the 2d inst.

The New Haven County, Conn., Medical Society.—At the annual meeting, to be held at the Dayton House, Ansonia, on Thursday, the 16th inst., the subject for discussion will be "Diet in Fevers."

A Portrait of Dr. Fordyce Barker is to be presented to the New York Academy of Medicine at its next meeting, Thursday evening, the 16th inst. It is expected that the presentation speech will be made by Dr. Thomas M. Markoe. The portrait, by Lazarus, represents the ex-president of the Academy in his Edinburgh academical robes, a feature which, we think, will form a pleasing variation of the garbs shown in the portraits that now adorn the Academy's walls. The likeness is excellent, the expression being serious but kindly.

Columbia College.—It is announced that Dr. John S. Billings, of the army, has been invited to extend his course on hygiene from twelve lectures to twenty, and that Dr. Edwyn Waller, heretofore instructor in quantitative analysis, has been made professor of analytical chemistry.

The College of Physicians of Philadelphia will hold its annual conversazione on Thursday evening, the 16th inst. Dr. S. Weir Mitchell and Dr. Edwin T. Reichert will show specimens of snake poisons and drawings illustrating their effects; Dr. E. O. Shakespeare and Dr. H. F. Formad will exhibit apparatus for sterilizing organic infusions, various cultivations of bacilli, also the bacilli of tuberculosis and of cholera; Dr. J. Gibbons Hunt will show various microscopical preparations of interest; Mr. Holman will exhibit the circulation of the blood with the lantern microscope, together with other objects of interest; and Dr. H. F. Formad will show photographs of bacilli, etc., on the screen. The Mütter Museum and the library will be open during the evening, and supper will be served at 10 o'clock.

The Alumni Association of the New York College of Pharmacy held its annual dinner on Wednesday evening, the 8th inst., at the Rossmore Hotel.

Foreign Students and the Paris Hospitals.—The *conseil municipal* has decided that foreigners may be allowed to compete for positions as *internes*, as we learn from the "Progrès médical," but will insist that none but Frenchmen be appointed in the higher grades of hospital service.

Another Medical Novelist.—The "Lancet" confirms the rumor that "Pen Oliver, F. R. C. S.," the author of "Charley Kingston's Aunt," is the well-known surgeon, Sir Henry Thompson.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 29, 1885, to April 4, 1885:*

Hall, William R., Captain and Assistant Surgeon. Granted leave of absence for one month and fifteen days, to take effect when his services can be spared. S. O. 70, A. G. O., March 27, 1885.

Gardiner, John de B. W., Captain and Assistant Surgeon. Ordered for temporary duty at Fort McHenry, Md. S. O. 64, Department of the East, March 28, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending April 4, 1885.*

Murray, R. D., Surgeon. Granted leave of absence for one week. March 31, 1885.

Bratton, W. D., Assistant Surgeon. To proceed to New York, N. Y., for temporary duty. April 2, 1885.

Watkins, R. B., Assistant Surgeon. To proceed to New Orleans, La., for temporary duty. April 2, 1885.

Appointments.

The following candidates, having passed the examination required by the regulations, were appointed assistant surgeons by the Secretary of the Treasury, April 1, 1885, viz.:

William D. Bratton, M. D., of South Carolina;
Ralph B. Watkins, M. D., of Connecticut.

Society Meetings for the Coming Week:

Monday, *April 13th:* New York Academy of Sciences (Section in Chemistry and Technology); New York Ophthalmological Society (private); New York Medico-Historical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Norwalk, Conn., Medical Society (private); Burlington, Vt., Medical Club.

Tuesday, *April 14th:* New York Surgical Society; New York Medical Union (private); Medical Societies of the Counties of Oneida (Utica), Rensselaer, and Tioga (Owego), N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private); Medical Societies of Bergen (Hackensack) and Cumberland Counties, N. J.; Fairfield County, Conn., Medical Society (South Norwalk).

Wednesday, *April 15th:* Northwestern Medical and Surgical Society, New York (private); New Jersey Academy of Medicine (Newark); Windham County, Conn., Medical Society; Middlesex South District, Mass., Medical Society (Waltham).

Thursday, *April 16th:* New York Academy of Medicine; New Haven (Ansonia) and Tolland County, Conn., Medical Societies; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *April 17th:* Chicago Gynæcological Society.

Saturday, *April 18th:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

OBITUARY NOTES.

Dr. James L. Little.—We are pained to have to record the death of this well-known surgeon, which took place on Saturday, the 4th inst., as the result of a brief illness which is understood to have been peritonitis.

James Lawrence Little, M. D., was born in Brooklyn in 1836. He studied medicine as a private pupil of the late Professor Willard Parker, and received his medical degree from the College of Physicians and Surgeons in 1860. Immediately after his graduation he was appointed on the surgical house-staff of the New York Hospital, where he served for what was in those days the regular term—two years. On leaving the hospital he entered the military service (quite as much from his intense patriotism as from a desire for further surgical opportunities), and was at once made surgeon-in-charge of the Park Barracks, a number of wooden structures that had been hastily thrown together as a refuge for the sick and wounded soldiers that passed through New York on their way to or from the seat of war. At about the same time he was appointed first assistant at the surgical clinic of the College of Physicians and Surgeons, a position which he held for a number of years, with great credit to himself and to the advantage of the clinic. Meantime he had taken up his residence in a quarter of the town where his patients were likely to be numerous, and he speedily found himself with a large practice on his hands—chiefly surgical from the outset. Before long he was appointed one of the surgeons to St. Luke's Hospital, and subsequently he received a like appointment at St. Vincent's. Both these positions he held up to the time of his death, and for a considerable period prior to his decease he had been professor of clinical and operative surgery in the New York Post-Graduate Medical School and Hospital, professor of the principles and practice of surgery in the Medical Department of the University of Vermont, consulting surgeon to the Mary Fletcher Hospital, at Burlington, Vt., and a member of the Medical Society of the County of New York, of the New York Academy of Medicine, of the New York Pathological Society, of the New York Surgical Society, of the Northwestern Medical and Surgical Society, and of the New York Physicians' Mutual Aid Association.

Dr. Little's career was exceptionally successful. At the very first, he had the great advantage of a mature and commanding presence, so that probably his patients never had their confidence in him restricted by his appearing "too young." But this was his only accessory advantage; nepotism, self-interest on the part of others, and all the golden borders that sometimes light up the clouds of a young doctor's life were never brought to bear in his favor. He was emphatically a man of the people and a self-made man; had he not been possessed of sterling worth, he would never have been heard of beyond the circle of his personal friends. He was also in an eminent degree a man of action rather than of book-learning. The success of his operations was a frequent subject of remark, and it was not uncommon to hear surprise expressed that it was greater than that of some of his contemporaries who were accounted more learned. His "luck" was often spoken of, but it must have been with the secret conviction that whatever he lacked of book-learning he had more than made good by his powers of observation and his mastery of the art of surgery.

While Dr. Little unquestionably made an impression upon New York surgery, it was rather by his successful practice than by any novelties, either of design or of execution, such as are likely to be handed down in literature. Nevertheless, his first notable achievement, while yet a hospital *interne*—that of making immovable dressings manageable by his simple and effective plaster-of-Paris splint—must prove an enduring monument to his memory. He will long be remembered, too, for his great experience with Allarton's operation of median lithotomy, and for the many points of detail in which he rendered it easier, simpler, and more satisfactory. Dr. Little was not over-fond of writing, but many of his contributions were noteworthy, and, almost up to the day of his death, he was an active participant in the proceedings of the New York Surgical Society—indeed, this issue of the journal contains a report of a recent meeting of that society in which he took part.

There is no better criterion of a medical man's worth than the esteem in which he is held by those who serve under him in a hospital. Judged by this test, Dr. Little was worthy of the greatest admiration. While he was a strict disciplinarian, he was kind and considerate, and as a consultant he was exceedingly liked. He was a man of noble purposes and of a great, kindly heart. Devoted to his profession, he was at the same time a loyal citizen. By his death two colleges lose a most successful teacher, two hospitals an excellent surgeon, the profession an indefatigable worker, his family a kind husband and father, and the community a man who was every inch a typical American.

Letters to the Editor.

ENCEPHALIC NOMENCLATURE.

To the Editor of the New York Medical Journal:

Sir: Referring to Dr. Spitzka's note in the "Journal" for April 4th, page 391, I venture to suggest that he may have overlooked, in my "schema," Fig. 2, the name *myelocœle* as applied to the *entire myelic division* of the neurocœle, or cavity of the "cerebro-spinal axis." Commonly, especially in anthropotomy, there would be no occasion for the use of any other term for what is now called the "central canal," and hence, as upon so many other points, Dr. Spitzka and I would be in strict accord. But when, as in the cases which he names, there is a marked dilatation of the myelocœle in the lumbar region (without committing ourselves to the recognition of that region as a segment), it seems to me desirable to employ distinct names for the tubular and the expanded portions. I am not tenacious as to *syringocœle*, but *rhombocœle* is certainly a good monomial, and sufficiently suggestive substitute for the polynomials, *sinus*, and *fossa*, *rhomboidalis* (which are applied also to the "fourth ventricle," and are therefore ambiguous) and *ventricule lombaire*. I repeat my request for information as to the first employment of the name *foramen Monroi*, which I have proposed to replace by the monomial *porta*.

Respectfully yours,

Burt G. Wilder.

THE PASSAGE OF A PISTOL-BALL THROUGH THE EAR, AND ITS SUPPOSED LODGMENT IN THE STOMACH OR LUNGS.

To the Editor of the New York Medical Journal:

Sir: There is nothing special in this case aside from its novelty and the uncertainties which surround the place of lodgment of a ball when it has entered the body.

On the night of the 14th of February a young man placed the muzzle of a Smith & Wesson five-shooter, ·32 caliber, in the external ear of his supposed *fiancée*, and fired. He then placed the muzzle of the same pistol in the meatus of his right ear, and fired. On opening the cranium, the ball was not found lodged in the brain or in the bones, but it had traversed the entire length of the petrous portion of the temporal bone, splitting it into three pieces, and rupturing the carotid artery and the jugular vein. After dislodging the carotid artery, it traversed the canal and struck the basilar process of the occipital bone at its connection with the sphenoid. The inferior maxillary bone was removed from the glenoid fossa on one side, which admitted of a free exploration of the fauces. Notwithstanding a most diligent search was made in the brain, the bones, and the throat, the ball was not found. The conclusion was that it had entered either the œsophagus or the trachea, and found a lodgment in the stomach or lungs. The direction of the ball can better be appreciated by taking the base of a skull and passing a probe into the carotid foramen and canal, and another into the meatus auditorius externus.

Tandy L. Dix, M. D.

Shelbyville, Ky.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of March 24, 1885.

The President, Dr. R. F. Weir, in the Chair.

Ganglion of the Wrist.—Dr. A. C. Post presented the patient, who had a ganglion of the wrist, which he had treated by puncture and evacuation of the contents, and whose case he had already reported to the society about one month ago. There remained only a slight hardness in the situation of the swelling. It was possible that there was a slight reaccumulation of fluid, and it might be necessary to resort to further operative procedure.

Congenital Hypospadias.—Dr. Post also presented a patient on whom he had performed an operation for hypospadias on the 3d of February. The man was over thirty years of age. The floor of the urethra was deficient to the extent of about 2 ctm. behind the corona glandis. The operation consisted in making a perineal incision into the membranous part of the urethra, introducing a short catheter into the bladder, dissecting a flap of integument 2 ctm. wide on the lower surface of the penis extending back nearly to the scrotum, and denuding a space 1 ctm. wide on each side of the flap and extending forward on the lower surface of the glans. The flap was then doubled on itself and drawn forward as far as the glans, and its edges were attached by fine sutures to the outer edges of the denuded space. The deep layer of the doubled flap, which was designed to form the floor of the urethra, was not attached by sutures, but left to attach itself. The wound was washed with a solution of mercuric bichloride, 1 to 1,000, and dusted with iodoform. To take off the tension from the base of the transplanted leaf, a V-incision was made behind the base of the flap, the triangular flaps of skin were dissected up from its base, and the sides of the triangle drawn together with sutures, converting the V into a Y. The wound healed perfectly, and the floor of the urethra was thus extended forward beyond the corona glandis. The catheter was withdrawn from the perineal wound within a fortnight after its introduction, and the patient passed his urine freely through the reconstructed canal. Within a very few days the wound of the perinæum was entirely healed.

The President asked Dr. Post if he did not attribute the success in a great measure to the perineal opening.

Dr. Post replied that he did.

Dr. J. L. Little asked if there was any marked curvature of the penis.

Dr. Post answered, no, there was only a slight tendency to curvature.

The President said that marked curvature of the penis did not usually take place unless the opening in the urethra was farther back.

Dr. Charles McBurney said it was noticeable that a prominent author on genito-urinary diseases had stated that to make an opening in the perinæum like that resorted to by Dr. Post was adding a major operation to a minor one; but it had always seemed to him absurd to make such a criticism on the perineal opening, as it was a simple operative procedure, and the opening was one which readily closed.

The President had had occasion to open the perinæum five times in the treatment of anterior fistulæ by plastic operations, and in no instance had there been any failure in the rapid spontaneous closure of the perineal opening.

Dr. McBurney had had one patient with an extensive fistulous opening in the urethra which required four operations for its cure, and in that instance he made an opening in the perinæum, which closed after each operation upon the urethra, so as to make it necessary to reopen it each time before doing the next operation.

The President said that within a few months he had closed in one patient three openings in the normal urethra from tertiary ulceration situated in the corona glandis. The operation consisted in vivifying the edges of the fistulæ after making a perineal opening. The broad, freshened edges of the prepuce and inferior surface of the glans were sewed up with several rows of catgut sutures, and in this manner a perfect success was obtained. He thought the multiple rows of fine catgut sutures, as well as the perineal opening, contributed to the good result.

Dr. Little remarked, with reference to Dr. Post's case of ganglion of the wrist, that it seemed to him the sac was beginning to refill. He had had a similar case under treatment in which the swelling extended above and below the wrist, and in which he made a free incision, and followed it by the application of a compress for some time, when it seemed to be entirely cured. Subsequently, however, it was found that the sac had refilled, and he made a second incision. The tumor was a kind of double swelling, and contained the fluid ordinarily seen in ganglia, with the exception that he did not find any of the so-called rice bodies.

Dr. Post said that if the sac in his case refilled he would make a freer opening and treat it as an open wound.

Carcinoma of the Parotid; Successful Removal of the Entire Gland.—Dr. L. A. Stimson presented a man, sixty-four years of age, from whom, twenty days previously, he had extirpated the parotid for carcinoma. The growth made its appearance four years ago, and of late had increased in size rather rapidly, so that at the time of the operation it involved the skin to the extent of about an inch and a half by two inches. The case was brought before the society, first, because complete extirpation of the parotid was said by some writers to be too hazardous to be undertaken. In this instance there was no difficulty in removing the gland, and the only vessel of much size which was divided and ligated was what seemed to be the temporal branch of the external carotid, the bifurcation into it and the internal maxillary appearing to be much lower than usual. Of course there was complete facial paralysis. The entire gland was involved in the tumor except at the deeper part, where it seemed to be healthy. The growth had invaded the sterno-cleido-mastoid muscle just below the mastoid process. At the close of the operation Dr. Stimson was able to cover the entire wound by a skin-flap, and at the end of a week it had all healed except at the situation of the drainage-tube; but during the second week it became evident that the deeper upper part of the cavity left by removal of the gland had not closed, and there was now present an opening about a third of an inch in depth, running up in front of the mastoid process. There was also another point low down under the chin, which marked the position of a defective suture, where the borders of the incision had not united. At the same time the wound had remained practically without pus. It was treated by irrigation with bichloride solution during the operation, and dressed with iodoform afterward. The tumor was movable superficially, but the deeper posterior and upper portion was very firmly adherent.

In making a dissection before the operation Dr. Stimson encountered a peculiarity of the internal carotid artery, which consisted in an S-shaped fold or turn, about an inch above the bifurcation, which drew the artery into a loop three quarters of an inch across, placed transversely in the neck, so that the upper portion of the loop was three quarters of an inch superficial to the line of the artery itself.

Paralysis of the Trapezius, Serratus Magnus, and Rhomboidei.—Dr. Stimson also presented a man, thirty-two years of age, who had always been healthy until the present trouble, which began five months ago with pain in the right side of the neck, followed by difficulty, steadily increasing, in the use of the right arm and in raising the hand to the head, which was now very marked, and with which there was inability also to use the shoulder, especially in bringing it forward. He could raise the arm to the horizontal line, but no farther; and when he did so, or when he pressed with the raised hand against an object in front, the vertebral border of the scapula became very prominent and the soft parts between it and the spine were deeply depressed to fill the space left between the scapula and the wall of the chest. The line running from the point of the shoulder to the side of the head, formed by the trapezius, was much less full and prominent than on the other side. The deltoid and scapular muscles seemed normal, and the inability to raise the hand to the head appeared to be due to weakness of the upper fibers of the trapezius. Recalling the patients whom Dr. Gerster presented to the society some time ago, he had presented the man partly that the society might have the opportunity to see him, and partly to obtain a diagnosis. The muscular reaction had been tested with electricity by some neurologists, and the patient had been told that there was marked degeneration of the rhomboid muscle and of the trapezius, but not of the serratus magnus, and that the reaction was not that of degeneration. The question in Dr. Stimson's mind was, what muscles were at fault, and what was the cause of the paralysis. The posterior border of the scapula was held down to the chest not by the action of the serratus magnus alone, but by the conjoined action of the posterior fibers of the trapezius, the rhomboideus, and the serratus magnus, and therefore, when either one of these muscles was paralyzed, the border of the scapula could leave the chest; the question therefore arose, Which of them in the present case was affected, or were all? The levator anguli scapulæ seemed to be perfect. There was no specific history, and there was no wasting of the muscles of the hand, as might be expected in progressive muscular atrophy; nor was there any history of traumatism.

Dr. A. G. Gerster had seen a somewhat similar case in an adult girl after dislocation of the shoulder joint, in which instance there was paralysis of the serratus magnus on the injured side due to traumatism accompanied by paralysis of almost all the muscles surrounding the shoulder joint, a complication which, according to Busch, of Bonn, was not at all uncommon.

Dr. Post remarked that it was hardly conceivable that any single muscle should be paralyzed by itself unless it was supplied by a single nerve which distributed branches to no other muscle, as in the case of the fourth and the sixth cerebral nerves.

Excision of the Knee Joint.—Dr. McBurney presented a patient upon whom he had performed excision of the knee joint. Henry J., thirty-five years of age, a coachman, was admitted to the hospital May 19, 1884. The patient's family history was good; his previous health had been excellent, and there was no history of venereal disease. Four years ago he slipped and struck his left knee, and was laid up for four days. Two years after this the knee became swollen, and the leg was fixed upon the thigh at an angle of forty-five degrees, which condition lasted for two weeks. There was then an interval of eighteen months in which the knee seemed to be nearly well. Six months ago the knee began to swell and to be painful, and three months and a half ago an incision was made from which pus discharged very freely. Since that date four additional openings in the thigh and leg had been made for the evacuation of pus. Last May Dr. McBurney found the patient with a general suppurating joint, eroded cartilages, and sinuses burrowing in every direction through the thigh and leg, and almost down to the ankle joint, separating the muscles of the calf. He performed complete excision and removed all the joint structures, and thoroughly curetted all the sinuses. The dressings from the date of operation to July 15th were changed as occasion demanded. On August 30th the sinuses on the anterior and posterior surfaces of the limb were laid open, and again, also, on October 2d, sinuses on the outer side of the leg were laid open and curetted. On November 28th there was excellent bony union, and the foot was in a state of talipes equinus. On February 23, 1885, there was a small sinus, not leading to bone, on the anterior surface of the limb, which on March 24th had been healed for some weeks. The result was a shortening of the limb of not quite three inches, with bony union, which was found to be complete six months after the operation. The bone was treated without either wire or nails, or other apparatus except an external appliance to obtain apposition of the fragments, a method which Dr. McBurney thought possessed advantages. The incisions through the bone were straight. There remained some paralysis of the flexors of the foot, which also existed before the operation. The result was not a handsome leg, but it was much better than a wooden one. The speaker had performed excision of the knee joint in nine cases, and in all union had taken place rapidly, the longest period being six months after the operation, and the shortest six weeks, in the case of a child. He had had another case in which union took place, and in which he did not use either wires or nails, but simply an outside splint, and the result was satisfactory. Concerning a third case treated in this manner, he was unable to report. Other things being equal, it was desirable to avoid the introduction through bones of substances which were not absolutely essential.

Dr. Post remarked that the evil resulting from the introduction of wires was not very formidable.

Dr. McBurney admitted that the results were not very serious, but at the same time he had seen prolonged discomfort, considerable pain, and suppuration from the presence of such foreign bodies, and, unless the advantage attending the presence of the wire or nails was very compensating, he thought they had better not be used. This was an important point, which could, however, be decided only by further experience. In a case like the one just reported, which was the worst he had ever seen, he thought the result was in favor of not using wire to hold the surfaces in apposition.

Dr. Gerster thought that the question could not be decided so simply as this. He believed that there were cases in which the use of wires and nails was not necessary, whereas they might be in some cases essential to get good apposition of the fragments—for instance, if the surgeon had to deal with a fat or very muscular subject, where the fixation of the resected joint in the splint was more difficult than in lean individuals. He had not wired many bones, but he had used nails in six or seven cases, two of exsection of the knee joint, two in the performance of Mikulicz's operation, and after a number of necrotomies, and had found them exceedingly useful and non-irritating. In the first case of knee exsection the nails had not been disinfected properly, some suppuration took place, and tuberculous granulations sprung up which rendered revision of the knee joint necessary, and, on laying open several sinuses and removing the granulations, the wounds healed. Excellent bony union of the same surfaces had taken place almost immediately after the operation. In other cases no reaction followed the use of nails, and, as soon as the nails were withdrawn, the tracts closed up without suppuration. Dr. Gerster thought the trouble experienced in the removal of nails was far less than from the use of wire, but that their proper disinfection was essential.

Dr. Little asked how long the nails were allowed to remain.

Dr. Gerster replied that it depended upon circumstances. He had left them in as long as four weeks. The nail need not do any harm, as it was no more irritating than so much clean silver wire.

The President remarked that the nails certainly added firmness to the limb, and were easily removed.

Dr. McBurney agreed with Dr. Gerster with regard to the use of nails and wires, but he thought there were few cases where exsection of the knee or shoulder was demanded in the fat subject. Of course the operation might be demanded in some cases of traumatism, but the point was not whether nails could be borne without causing irritation, but whether nails were necessary. That they could be borne, there was no question whatever; but, on the other hand, there were not infrequently cases where the bone was so disorganized, and abscess cavities were so large, that practically there was not sufficient bone left for the nail to enter and be of any service.

Dr. L. M. Yale had seen one of Dr. McBurney's cases, in which he thought that neither nails nor wire would have held the bone together.

Dr. McBurney remarked that it was a case of this character which first led him to try to keep the bony surfaces in apposition without any special kind of retentive apparatus.

Dr. Stimson said that there was another question of importance in the treatment of these cases, laying aside the question of how much benefit either wire or nails afforded. It was well known that the bone encountered in excision was not tough, strong tissue, but was spongy, and could be readily broken down with the gimlet, and that whatever instrument was used for making the holes for inserting the wires or nails usually made a hole much larger than itself. The leg and thigh together constituted a very long, heavy body, and any lack of support of the foot would produce a change of angle at the section unless the union there was stronger than that furnished by a nail driven into the spongy bone, as he had seen it, was likely to be. The same was true of wires; those which were used were ordinarily not strong enough to stand any heavy strain, such as could be given by partial weight of the foot; but, even if they were, the bone through which they passed was rapidly absorbed about them. In his own last case, one yielding an excellent result, the wire loops promptly became loose and fell out spontaneously. He thought that the result desired, which could not be obtained with wire, could be obtained by attention to one point in the dressing, that of supporting the limb with the heel considerably higher than the buttock in a splint which did not take hold of the limb below the knee, and thus allow the thigh to sink away from it. If this method was observed, simply lifting the limb and placing it upon a posterior splint, gravity would keep the leg in apposition with the thigh, and all that the wires could do in addition was to keep the segments from being rotated one upon the other. The simple action of gravity alone would keep the two cut surfaces of bone in contact, unless the limb was so suspended that the leg alone was fixed and the thigh allowed to sag away from it. The limb should lie loose on a posterior splint, a gutter, so that the leg could follow the thigh as the buttock sunk in the bed.

The President said he must, however, add that from his experience the introduction of nails did stiffen the divided bones.

Dr. H. B. Sands said his experience in the use of nails in excision of the knee was limited to two cases. The first was that of a man upon whom he performed the operation a little more than a year ago, employing three nails, which, from his lack of experience, were not very skillfully introduced. One of the nails, which was driven in in the median line from below upward, penetrated so near the popliteal space that, as a matter of precaution, it was removed on the second day. The other nails were allowed to remain two weeks, when, being found quite loose, they were removed. The other case was one in which he had excised the knee joint two weeks ago. It was one of white swelling of an aggravated character, occurring in a girl sixteen years of age, with very extensive abscesses and sinuses running up to the middle of the thigh as well as down the leg. He introduced three nails in the usual manner, and, although the osseous tissues were somewhat soft, considerable force was required to insert them. Dr. Sands was satisfied that the mechanical advantage derived from their use in this instance was very great. It became necessary to dress the wound forty-eight hours after the operation, and three dressings had since been made on account of the soiling of the bandages. When the dressings were changed, the advantage of using the nails was shown in the fact that the limb could be readily lifted without disturbing the apposition of the sawn surfaces, and at the present time, two weeks after the operation, the nails had not loosened their hold. His own inclination would be to use nails in preference to wire, and, if they could be shown to be harmless, as seemed to have been demonstrated, they should be tried as a means of getting better apposition than could be obtained by the use of external splints. They would appear to be particularly useful in a case like this one, in which frequent dressings were required.

Dr. Gerster asked Dr. McBurney how he treated the abscesses situated about the knee joint.

Dr. McBurney replied that they were all freely laid open and curetted; that they were heavily lined with granulations, and they were as thoroughly scraped as possible, after which they were thoroughly irrigated with bichloride solution, and, wherever possible, were packed full with iodoform gauze. Some of them required several scrapings; but, as far as possible, they were laid open at the first operation.

The President remarked that he was very much impressed with the treatment of such sinuses which he saw at Kiel, at Esmarch's clinic, where they were laid open and dissected out, and sutured together with deep catgut sutures, after which they healed promptly.

Dr. Gerster had raised the question for the purpose of referring to what he regarded as a widespread error. It had been said that if drainage-tubes were used after exsecting tuberculous joints, and were left in for a certain length of time, persistent and troublesome sinuses would remain behind as a consequence of the use of the drainage-tubes. This to him seemed to be erroneous, since he thought that any sinus, kept open by a drainage-tube, whose walls were in a healthy condition would close up almost immediately after removal of the tube. If a sinus did not close up, it was due to the fact that it was lined with granulations of a specifically morbid character, containing tubercle bacilli, when granulations were prone to decay and lacked the tendency to form cicatricial tissue. The form of treatment referred to by Dr. McBurney was the only proper one, and removal of the entire capsule and all the tuberculous (cheesy or gelatinous) tissues about the joint was essential to a speedy and thorough cure. In Germany, all these foci were methodically removed as if they were malignant disease, the entire capsule was excised, and in almost all cases the operation wound healed by primary union. He had seen seventeen cases in Kiel in which this had taken place. Wherever such diseased tissues were left behind, a relapse of the tuberculosis was established, and gradually all the remaining healthy parts of the granulating wound were again infected.

Dr. C. K. Briddon said he had seen three cases illustrating this condition within the last two or three months. In one there was a sinus nearly in front of the head of the humerus, which was opened and scraped out thoroughly. It contained tuberculous tissue. The cavity was filled with iodoform, a bone-drain was introduced, and the operation wound required only one dressing afterward. The sinus healed completely, and all the motions of the shoulder joint were restored within a month. In another case the sinus was in a similar condition, and was treated in the same way with the same good result. Both of these cases occurred in children, and the first dressings were removed at the end of two weeks. In another case of tuberculous disease of the knee joint all the granulations were removed from the deep recess of the sinuses, and three bone-drains were introduced. When the dressings were removed, at the end of thirty days, it was found that union had not taken place, and it was doubtful whether it would ever occur.

Two Cases of Ligature of the Common Carotid Artery for Trigeminal Neuralgia.—Dr. J. C. Hutchison read a paper with this title. [See page 401.]

Dr. Post remarked that one important point brought forward by the reader of the paper was the influence of dampness on neuralgic affections. He believed it had been shown that change of climate exerted a powerful influence on such affections, especially going from a dry to a damp climate. This miner had a recurrence of his difficulty after returning to his occupation. Dr. Post regarded this as an important point with reference to the treatment of these forms of neuralgia.

Multiple Rupture of the Ileum.—The President presented a specimen which bore upon the question of laparotomy in abdominal injuries. An employee of the elevated railway got caught between two cars, and was severely jammed. The immediate effects were not specially prostrating, as the patient walked from the Chatham Street station to the Grand Street ferry, also three or four blocks on the other side of the river before reaching his home. When he arrived he complained of considerable pain in the abdomen, and called a physician. This occurred on a Sunday. With the exception of some increase in the frequency of the pulse and tenderness of the abdomen, the patient did very well, until Wednesday evening, when he began to vomit. After a very short time the vomiting became stercoraceous, and the physician in attendance, supposing that he had to do with obstruction, administered a very large enema, which was followed by a great deal of pain, and the patient's condition rapidly grew worse. Dr. Weir was asked to see him on Thursday evening, and to be prepared to perform laparotomy, but on his arrival the man had been dead about two hours. The autopsy was held three hours after death. There was a sharply outlined ecchymosis stretching across the belly just below the umbilicus. It was found that the contusion had torn apart the fatty tissues to the extent of four or five inches on each side of the median line, but that the muscular tissues had not been torn except a very few fibers, and that there were several blood extravasations under the peritonæum, which, however, was not torn. The ileum at a point nearly two feet from the cæcum bore marks of injury, consisting in three lacerations, and between two of these openings for a distance of six inches there was a mass of gangrenous gut from the damage done apparently to the mesentery. Around this there was some fæcal extravasation, bound in generally by recent adhesions. At one place there was apparent giving way of this limitation of inflammatory product, and then a slight extravasation of fæcal matter toward the loin on that side had taken place. It was a case which, had it been seen earlier and the abdomen opened, would have offered a very good chance for a successful issue, as the injury was limited, and up to Wednesday evening the patient was in a fair condition.

Dr. Sands asked if there were any signs by which a diagnosis could have been made early.

The President replied that the appearance of the symptom of vomiting, together with the history of the case, would have warranted the surgeon in making an exploratory incision.

Necrosis of the Lower Portion of the Femur; Epithelioma; Amputation.—Dr. McBurney presented a specimen removed by amputation from a man, thirty-five years of age, who had his first periostitis twenty-eight years previously. The bone was the seat of necrosis, as shown by the presence of a sequestrum projecting from the inner side of the thigh, and for a period of nine years and a half he had escaped surgical treatment. Sinuses had formed at different points, and finally an epitheliomatous mass developed at the inner side of the thigh, some four or five inches in diameter, through which the sequestrum protruded. There was great dislocation of the leg backward, and the limb was useless. On dissection, the artery was found lying in absolute contact with the specimen of dead bone. Fortunately, no one had made sufficient strain upon it to cause hæmorrhage.

Dr. Post remarked that, probably, if the sequestrum had been discovered and removed, the epithelioma would not have developed. Several years ago he saw a case of epithelioma, the result of a wound of the leg which had been received in the war, and which had remained unhealed.

The President thought all the members had seen instances of epitheliomatous growth from long-continued bone injuries at the lower or middle portion of the tibia; but Dr. McBurney's specimen was the first which he had seen where epithelioma, under such circumstances, had invaded the thigh.

Fracture of the Patella.—Dr. Sands had been called in consultation three days before to see a lady who had received, ten days previously, an injury while getting off a railroad car in the Grand Central Depot. She stepped from the car to the platform, which she says was an unusual distance, and alighted upon the right foot. She was aware that she had received some injury by feeling a sharp pain, which almost caused fainting, and by hearing and feeling something snap. She did not fall, and was certain that she did not strike her knee. She was able to walk a considerable distance, nearly the length of the depot, where she was met by a relative, who escorted her to her carriage, in which she was driven home. She was able to ascend the steps without much assistance, and was helped up-stairs to her bedroom in a similar way. On the following day she sent for her physician, who found a great deal of swelling in the lower part of the thigh, from extravasation of blood, and also a considerable effusion into the knee joint. Ten days afterward the effusion into the knee joint had subsided, the ecchymosis had disappeared, and a fracture of the patella was discovered. Dr. Sands saw the patient, and found that the fragments were separated to the extent of half an inch. A singular feature of the case was that the fracture, which ran through the middle of the bone, was not transverse, but diagonal, running from above downward and inward. This was the only case in Dr. Sands's experience in which he had ever known a person to fracture the patella completely and to be able to walk immediately afterward, and he would like to know the observations of the members of the society on that point. The other fact which was interesting was that the fracture was evidently produced by muscular violence, and that it should show the obliquity noticed in the present case.

Dr. Stimson had had a case three or four years ago in which oblique fracture of the patella took place, as in Dr. Sands's case, and in which also the fracture was produced by muscular action. He did not remember that the patient was able to walk. The line of fracture ran from the outer upper angle downward to a point below the equator. It had been stated in text-books that patients could walk backward with fracture of the patella.

The President remembered one case where a man fractured the upper portion of the patella and walked up-stairs; whether the fracture was transverse or not, he was unable to recall.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of March 11, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Suppuration of the Tunica Vaginalis.—Dr. T. M. Prudden presented a specimen from the body of a man who had died from suppuration of the tunica vaginalis following frequent tappings of a simple hydrocele. The pus and the walls of the sac contained two kinds of bacteria in great numbers.

The President said, in reply to a question by Dr. Peters, that a mechanical introduction of bacteria was not necessary for their development in abscesses, inasmuch as they were found in those that had no apparent external communication. He also remarked that the case narrated by Dr. Prudden was not unique with regard to death following tapping of a simple hydrocele with the hypodermic needle.

Hyperplastic Enlargement of the Ovaries.—Dr. H. C. Coe presented several enlarged ovaries which he thought had been still capable of functional activity, and said that probably in many cases the diagnosis of useless ovaries was made by the operator rather than by the pathologist. He had seen as many as thirty or forty enlarged ovaries in which, from the appearance of the Graafian follicles, etc., the function had not been destroyed. These organs presented almost exactly the appearances under the microscope observed in so-called fibroid tumors of the ovaries, and the inference was that fibroids of the ovaries consisted in hyperplastic increase of the normal stroma. He had entertained the idea, although it might be fanciful, that painful menstruation was sometimes due to increased thickness of the ovarian capsule interfering with the easy rupture of the Graafian follicle.

Dr. Ripley asked whether increased thickness of the capsule and enlargement of the ovary might not exist without dysmenorrhœa. If so, it would be an argument against the theory.

Dr. Coe replied that enlargement of the ovary had been found at autopsies without a previous history of dysmenorrhœa.

Dr. Boldt asked whether the enlarged ovary was not prolapsed, which fact in itself would cause dysmenorrhœa.

Dr. Coe said that the organ was likely to be prolapsed unless it had previously become fixed in its normal position by adhesions.

The President thought a death-blow to the argument offered by Dr. Coe concerning the cause of dysmenorrhœa was the fact that menstruation might continue even after removal of the ovaries.

Dr. Coe remarked that it was a question whether the hæmorrhage after ovariotomy was true menstruation.

Cancer of the Peritonæum.—Dr. Van Gieson showed several specimens. In regard to one of them, from a case of carcinoma of the peritonæum, he asked Dr. Prudden if so-called colloid cancer of the peritonæum was carcinoma at the outset.

Dr. Prudden said this question was not settled in the minds of all pathologists; he thought that in some cases the disease began as colloid, while in others it began as carcinoma.

Dr. Amidon asked whether, in carcinoma of the peritonæum, the pain did not have some relation to the presence or absence of involvement of the parietal layer.

Dr. John C. Peters referred to a case in which, after death, a fibroid tumor was found in the body of the uterus, while the right ovary was the seat of colloid degeneration, with secondary nodules in the peritonæum.

General Miliary Tuberculosis.—Dr. Van Santvoord presented the lungs of an infant nine months old. The interest of the specimen was in the great extent to which the lungs were involved in the disease in a child so young.

Cirrhosis of the Liver and Kidneys.—Dr. W. P. Northrup presented specimens from the body of a woman, sixty-two years of age, who was a total abstainer from alcoholic liquors, and had been in good general condition. There was a history of Bright's disease a year ago, and at one time the urine contained some sugar. The autopsy revealed great diminution in the size of the liver and kidneys, due to cirrhosis.

Dr. Ripley remarked that cirrhosis of the liver might occur without there having been abuse of food or drink, and without a syphilitic history. The liver might vary in weight in adults from one pound to five or six pounds without being the seat of disease, and the organ diminished in size after the fiftieth or sixtieth year.

Dr. Frank Ferguson presented microscopic sections of the sarcoma of the brain shown at the last meeting.

Meeting of March 25, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Tracheotomy in Diphtheritic Croup; Death.—Dr. H. J. Boldt presented the trachea and lungs of a child which died sixty-three hours after tracheotomy for diphtheritic croup. The specimens confirmed views expressed by some of the members at previous meetings, to the effect that, as a rule, the lungs of patients who died of asphyxia were more or less anæmic, and not congested.

Ovarian Tumor twisted Five Times upon its Pedicle; Removal; Recovery.—Dr. James B. Hunter presented the specimen, from a patient who was first examined about the middle of December, at which time it was doubtful whether there was a tumor or not. It was quite evident at the next examination, early in January, that there was an ovarian tumor. The patient reported rather suddenly in February that she was suffering acute pain, and entered the hospital. The symptoms pointed to commencing peritonitis, and an operation was done in advance of the appointed time. The cyst was found covered with very large veins, and the least prick was followed by copious hæmorrhage. There was strangulation from twisting of the pedicle upon itself five times. Hæmorrhage had taken place into the walls of the tumor. The temperature and pulse-rate soon became normal, and the patient made a good recovery. Had the operation been delayed a day or two longer, the prognosis would have been much more doubtful.

Ovarian Adeno-Cystoma with Spontaneous Rupture of one of the Cysts during Life.—Dr. T. M. Prudden presented a specimen which had been removed from a woman twenty-eight years of age, and who had first noticed the growth seventeen months before, just after the birth of her last child. The growth developed from the right ovary; one side was a solid mass of tissue, and the other the seat of a cyst which had ruptured spontaneously, for which laparotomy was performed, but without success.

Dr. Hunter remarked that, about a week ago, he removed a tumor of almost exactly the same description from a patient fifty years of age. It had been developing nine months.

Rod-shaped Hæmatoidin Crystals.—Dr. Waldstein presented a microscopical section of a tumor of the testicle, showing rod-shaped hæmatoidin crystals in the form of asterisks—a form which to him was unique. There was no other evidence of hæmorrhage into the tumor.

Dr. Janeway remarked that he had seen similar crystals in the urine, but very rarely.

Tubercular Laryngitis.—Dr. Van Santvoord presented a larynx illustrating tubercular laryngitis, the specimen being chiefly interesting because of its excellent state of preservation. There were also pulmonary tuberculosis and tubercles in the liver and intestines.

Pelvic Abscess opening into the Duodenum.—Dr. E. G. Janeway presented specimens from the body of a woman, forty-five years of age, who was admitted to the hospital with a history of having been sick for five weeks, suffering from pain in the right lumbar region and thigh. The thigh was flexed upon the pelvis, and the leg upon the thigh. There was but very little elevation of temperature; during the last hours of life the temperature was subnormal. No distinct swelling was present, but the symptoms were such as to lead to the suspicion of psoas abscess. Two explorations were made without obtaining pus. At the autopsy, a psoas abscess was found which had not been reached by the exploring-needle, because of intervening indurated tissue. There was a small opening into the duodenum, and, doubtless, pus had been discharged during life, as there was diarrhœa. But, the stools being blackened by bismuth, the pus was not detected by the naked eye.

Perityphlitis.—Dr. G. L. Peabody presented the right iliac muscle, the cæcum, and the vermiform appendix, removed from the body of a girl twelve years of age, who was brought to the New York Hospital with the history that she had been in good health until ten days before, when she was taken with pain in the belly and obstinate diarrhœa. There were no dysenteric symptoms. The temperature ranged between 103° and 105° F. There were frequent irregular chills, marked distension of the entire abdomen, pain and tenderness in the right iliac region, following the course of the ascending and transverse colon; also dullness over the cæcum and in the region of the ascending and transverse colon. The exploring-needle was employed by one of the surgeons to the hospital, but no pus was withdrawn. It was intended to perform laparotomy, but the child's condition was too low. At the autopsy, blood-clots were found in the kidney and liver at the seat of puncture. There was one caseous focus in the lung, of about the size of the end of the finger, with numerous miliary tubercles. There were caseous foci in the liver, which was enlarged, and had caused dullness in the region of the transverse colon. There was a small abscess at the cæcum surrounding the vermiform appendix. The appendix was not perforated, but contained hardened fæces.

Atheroma of the Coronary Arteries; Myocarditis.—Dr. Peabody also presented the heart of a man sixty years of age, who had led a very active life of excitement and dissipation, and who died suddenly while in apparent health. The autopsy showed dilatation of the left ventricle, atheroma in the thickened border of the aortic cusps, also very extensive atheromatous changes in both coronary arteries, the caliber of the vessels being very much diminished by the calcareous deposit; there were also fibrous interstitial myocarditis and chronic diffuse nephritis. Spasmodic contraction of the coronary arteries could hardly have been the cause of death, as the walls seemed to be too rigid to permit of such action. Judging from several cases that he had seen, it would seem that when such extensive fibrous myocarditis existed as in this case the heart was liable to cease to act at any time.

Dr. Waldstein referred to the case of a man who for more than five years suffered from attacks of angina pectoris, in whom after death disease of the coronary arteries, also of the smaller vessels, and myocarditis were found. Death was not sudden.

Dr. Prudden thought that in accounting for death in such cases two facts should be taken into account: The weakened condition of the heart from degeneration of its muscular walls, and the diminished blood-supply through narrowed arteries.

The President remarked that interference with the nutrition of the central nerve-ganglia should not be lost sight of.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of March 23, 1885.

The President, Dr. Daniel Lewis, in the Chair.

The Question of Resignation from the Society.—The Secretary read the report of the Comitia Minora, including an opinion by the Counsel for the society, on the ability of members to resign. The following were some of the questions raised, and the answers given by the Counsel: 1. Are all practitioners of medicine required by the laws of this State to become members of a county medical society? Answer, Yes. 2. How can membership in a county medical society be terminated? Answer, By the resignation of any member who shall also cease to practice medicine and surgery in the county. 3. If membership can be terminated by resignation, must the resignation be accepted by the society in order to make it operative? The reply was that a resignation was operative only in case the member ceased to practice his profession. 4. Is the statute of 1827, requiring practitioners of medicine to become members of a county society, still in force? Answer, It is, to the extent of requiring such membership. 5. Is the statute of 1841, requiring graduates from without the State to pass an examination by the Board of Censors of some county medical society in order to become legally qualified practitioners, still in force? Answer, It is not.

The reasons for these opinions were then given in full, and the report concluded with the following words: Membership may be exacted of every practitioner, upon due notice, under penalty of forfeiture of the right to practice upon refusal. No active practitioner can resign from any county society, nor can the society accept the resignation of his membership.

The report was received and ordered entered upon the minutes.

A Simple and Efficient Surgical Operation for Lacerated Perinæum.—Dr. W. Gill Wylie read a paper with this title.

Dr. J. B. Hunter said that Dr. Wylie's operation was essentially the one which he had performed for many years past. There being so many ways of repairing the lacerated perinæum might be regarded as pretty good evidence that the perfect way had not yet been discovered. It was also evidence that a good result might be obtained by different operations. The first method which he had witnessed was that in which the horseshoe form of denudation was practiced, which he regarded as objectionable because it must give a superficial perinæum. It was a misconception to look upon the perinæum as having no body. Dr. Emmet spoke of his new operation as being simply a narrowing of the lower portion of the vagina, but Dr. Hunter did not think that was what the new operation accomplished at all; he thought it restored the true perinæum, meaning by that term structures which had depth as well as length and breadth. We might during a confinement case suppose we were going to avoid laceration of the perinæum by giving it support, when in fact that body had already been torn—not superficially, but deeply. The operation described by Dr. Wylie was intended to reach the deeply lacerated structures. Confining his remarks to lacerations not extending into the rectum, Dr. Hunter said that for many years past he had avoided denuding more than the parts naturally covered by mucous membrane, and in his opinion the greatest merit of Dr. Emmet's operation was that it taught us what not to do. He had used various kinds of sutures, and had found one as good as another. He did not think it mattered much what form was used, provided the surfaces were united properly, and too great tension was avoided. Lately he had used catgut altogether. One objection to Dr. Emmet's recent method was that more surface had to be denuded than in his former operation. Dr. Hunter's method of operating differed from that described by the author of the paper principally in the manner of introducing the sutures. Dr. Wylie inserted a part of the sutures from below upward, and others from above downward. Dr. Hunter began above, and put the last suture in below. One of the chief advantages of this operation was the fact that during the healing process it was not necessary to use the catheter, nor to give morphine to relieve pain, as after the old method. He thought Dr. Wylie would find it an advantage to use catgut instead of silver wire.

Dr. P. F. Mundé had been surprised to find, on his return from Europe a number of years ago, that the operation for repair of laceration of the perinæum not extending into the rectum was being very successfully performed in America, while in Europe success had been obtained only for the more extensive lesion. The reason was that here the sutures were passed deeper, while in Europe only a superficial perinæum was formed. When he witnessed Dr. Emmet's new operation it struck him that simply narrowing the posterior wall of the vagina would not unite the perinæum below, and thus there would be left a gaping vulva, and in one operation done by himself he found this objection to be valid. He thought the old clover-leaf form of denudation was very similar to that practiced by Dr. Wylie, as it would require only a stretching of the denuded surface to cause it to assume the nearly straight lines pictured by the author of the paper.

Dr. Hunter corrected a misapprehension on the part of Dr. Mundé, who supposed Dr. Emmet's new operation failed to restore the perinæum to its normal condition. That restoration was, in Dr. Hunter's opinion, its great advantage.

Dr. B. F. Dawson said he also had his peculiar way of repairing the lacerated perinæum. After denuding the original tear, the simpler the manner in which the surfaces were united the better, avoiding many sutures, for they corrugated the surface, strangulated the vessels, and caused abscess and much pain. He usually found two sutures enough. Dr. Emmet's recent operation was perfect, except that it was much more difficult to perform than the one which he adopted.

Dr. F. A. Castle, referring to intra-abdominal pressure, thought excessive flatus should be avoided in patients who had had rupture of the perinæum.

Dr. A. S. Hunter spoke of the abscesses which often formed after the old method for repairing the perinæum, and of the great pain which the patient suffered. These occurrences he had observed to be absent in Dr. Wylie's cases.

Dr. H. J. Boldt bore testimony to the advantages of Dr. Dawson's method of operating, especially of the small number of sutures employed.

Dr. Wylie would not object to the use of catgut where the tension was slight. With regard to the form which the cloverleaf would assume, if the tissues were stretched, the change of form would not do away with the fact that the tissues in the angles remained undenuded. He doubted whether Dr. Dawson's method would give permanently good results, especially in marked cases of rupture. He thought the method suggested by Dr. Hunter would not bring up the everted ostium vaginæ quite so well as his own method. He laid stress upon the importance of stretching the sphincter ani, and upon the effect of straining at stool in producing proctocele.

A State Board of Medical Examiners.—A resolution was passed, to the effect that the society urge upon the Legislature the passage of the bill approved by the Medical Society of the State of New York at its last meeting.

Dr. Sturgis, Dr. Drake, and Dr. Piffard made remarks, and, it appearing that the proposed substitute for the bill recommended by the State Society contained some important alterations in the original bill, Dr. Roosa favored Dr. Loomis's amendment to his resolution, which was passed as amended unanimously.

Alleged Illegal Practitioners.—The Board of Censors having been called upon to give reasons for failing to convict one Jacques for illegally practicing medicine, Dr. Drake, the Secretary of the Board, said the Court held that the diploma received by Jacques from the Eclectic Medical College was legal. On motion, the Censors were instructed to be prepared to give full information on this case and others before the courts at the next stated meeting.

Delegates to the State Society.—Dr. F. R. S. Drake and Dr. W. O. Moore were elected delegates to fill vacancies created by the resignations of Dr. Carpenter and Dr. Warren.

CHICAGO GYNÆCOLOGICAL SOCIETY.

Meeting of March 20, 1885.

The President, Dr. H. P. Merriman, in the Chair;
Dr. W. W. Jaggard, Secretary.

The Influence of Cimicifuga Racemosa upon Parturition.—Dr. J. Suydam Knox read a paper with this title, in which, after giving a *résumé* of the medical history of the drug, he related his experience with it in one hundred and sixty cases of labor, including those of fifty-seven primiparæ and ninety-three multiparæ. Under its use, he had found the average duration of the first stage reduced from seventeen hours to six hours and a quarter, and that of the second stage from three hours to an hour and three quarters, in primiparæ; that of the first stage from twelve hours to three hours, and that of the second stage from an hour to twenty-seven minutes, in multiparæ. From his observations he had concluded that the drug had a positive sedative effect on parturient women, quieting reflex irritability, nausea, pruritus, and insomnia; that it mitigated, and often altogether abolished, the neuralgic cramps and irregular pains of the first stage; that it relaxed the soft parts, thus facilitating labor and diminishing the risks of laceration; that it increased the energy and the rhythm of the pains in the second stage; and that, like ergot, it maintained a better contraction of the uterus after delivery. In regard to the latter, point, however, it was his habit to give ergot after the expulsion of the head. At first, in his indiscriminate use of the drug, he had caused a few precipitate labors. His method of using cimicifuga was to give fifteen minims of the fluid extract, in three times that quantity of compound syrup of sarsaparilla, every night for four weeks before the time for labor to come on.

Dr. Philip Adolphus had used the drug in only one case, and in that instance there had been no result.

Dr. Edward Warren Sawyer thought there could be no doubt as to the action which Dr. Knox had attributed to the drug, and he would make use of it in his practice.

Dr. W. W. Jaggard could not admit that Dr. Knox's observations amounted to a demonstration, but they made further investigation desirable. Views like those set down in the paper had been presented before the Illinois State Medical Society a few years before by Dr. H. Webster Jones, whose advocacy of the drug as an oxytocic was well known to every practitioner in the city. It was extremely difficult to determine the average duration of the first stage of labor; one author had concluded, from his observation of several hundred primiparæ, that the cervical canal began to dilate from eight to fourteen days before the birth of the child, while other observers had considered the duration of the first stage much shorter than Spiegelberg's typical seventeen hours, to which Dr. Knox had alluded. One hundred and sixty cases were not enough to serve as the basis for such positive deductions as Dr. Knox had drawn. The question had been investigated in Germany on a large scale, and under every condition for accurate observation, and, although it was true that Schatz had reported favorably as to the action of the drug in the treatment of certain pathological conditions of the uterus, the results had been purely negative. However, he did not wish to be understood as condemning the drug. As to the practice of giving ergot before the completion of the second stage, it was reprehensible. This remark applied exclusively to physiological labors.

Dr. Charles Warrington Earle had used the remedy in a variety of cases, with no results. He had seen about as many precipitate labors before as after he began to use it. But perhaps he had not used large enough doses, or given it for a sufficient length of time before labor came on.

Dr. Henry T. Byford wished to enter a protest against all methods of rendering labor shorter—quick labors were "wrong labors" as a rule.

Dr. George M. Chamberlain had had no experience with the agent, but he was opposed to giving ergot before the expulsion of the head in physiological cases.

Dr. Knox was so convinced of the truth of his conclusions that he would continue the use of the drug. As to giving ergot before the expulsion of the child, he did it to save time—it was not absorbed until twenty minutes after it was given, and long before that time the child was born. He could not spare the twenty minutes required to secure retraction of the uterus after the expulsion of the child and the placenta. At the present day there were no physiological labors—women were not Eves. By the judicious use of such a drug as cimicifuga, labor could be made to resemble the ideal physiological process that was still observed among savages.

The Value of Permanganate of Potassium in Amenorrhœa.—The Secretary read a candidate's thesis on this subject, by Dr. Edmund J. Doering. He had used the remedy in thirty cases depending upon anæmia and general atony of the sexual apparatus, in about half of which the observations had, for one reason or another, been unsatisfactory. The conclusions stated in the paper were as follows: 1. In doses of from two to four grains, the permanganate was an efficient emmenagogue, if given for a period of not less than two weeks. 2. Its administration in doses large enough to be effective was accompanied by severe pain, which impaired the value of the remedy, as it was often necessary to discontinue its use. 3. It was best to administer the drug in capsules, taken midway between meals and followed by large draughts of some pure mineral-water. Dr. Doering was elected a fellow of the society.

Miscellany.

Sanitary Work in Illinois.—In connection with the sanitary survey of the State and the house-to-house inspection, now being prosecuted under the direction of the State Board of Health with reference to the probable appearance of Asiatic cholera in this country, the board has just issued circular-letter No. VI, addressed to county clerks, and requesting that the work of getting the public institutions into good sanitary condition be completed with as little delay as possible. Much work of this character was done during the past summer and autumn, in response to the circular-letter of the board issued in July last. But, in addition to what remained to be done when cold weather suspended operations, there must since have accrued, in many cases, accumulations of filth and refuse which should now be promptly removed; defects in plumbing, drainage, and sewerage, disclosed during the winter, should be repaired; and the effects of the occupancy of dormitories, workshops, wards, cells, and other apartments should be remedied by a thorough spring cleansing. The officers in charge of almshouses, jails, and all other public buildings under control of the County Board, are notified to commence this work at once. Very much that requires to be done—scrubbing, whitewashing, removal of garbage and refuse, the emptying and disinfection of vaults and cesspools, the opening up and cleaning out of drains, sewers, and ditches—can be performed by the employees and inmates of the institutions. Especial attention should be given to the location and condition of privies and water-closets at these places, as also at court-houses and elsewhere. Vaults should be emptied before warm weather makes such work dangerous, and then be thoroughly disinfected with sulphate of iron (copperas). Where these vaults are within fifty feet of any source of water-supply—well, spring, pond, lake, or running stream—their further use should be abandoned, and, after being emptied, they should be disinfected and filled up with clean, dry earth—one of the best disinfectants. The new vault should not be less than fifty feet from the nearest water-supply; should be water-tight; ventilated by a four-inch shaft, opening above the roof; the contents should be kept inoffensive by the use of some cheap disinfectant; and the building and its surroundings should be kept in the cleanest attainable condition. Where practicable, the substitution of the earth-closet system for the subterranean vault-storage is recommended. In either case, the frequent removal of the contents, and their safe disposal, by use as fertilizers, are necessary sanitary measures. The source of the water-supply, and its storage and distribution, should be carefully inquired into, and all possible causes of pollution should be removed. A pure water-supply is of the first importance to health under all circumstances; but among numbers of persons living under the conditions which obtain in county institutions its importance is increased. Epidemics of diarrhœa and dysentery may be caused by impure water; while typhoid fever and Asiatic cholera are spread more commonly through the water-supply than in any other way. These remarks and suggestions will indicate the character of the work which the board considers it desirable should be accomplished before warm weather sets in, not alone through fear of cholera, but in the interest of public health, and, consequently, of true economy.

A similar circular was recently issued to railroad managers, setting forth that the spread of Asiatic cholera is due oftener to the pollution of the water-supply than to any other one cause. There is no commoner mode of such pollution than through foul, badly constructed, and improperly located privies and water-closets. The disease, in this country, being always due to importation, and its spread being, most commonly, by persons traveling from place to place, it follows that railway-privies and water-closets are especially exposed to the danger of cholera infection. In view of these facts, it is requested that all such places in connection with stations, freight-houses, shops, and round-houses be at once inspected and put in good sanitary condition. Responses have been received from nearly all the roads, and one of the most important lines has already completed the work indicated along the entire extent of its road.

The Late Dr. James L. Little.—At a meeting of the Faculty of the New York Post-Graduate Medical School and Hospital, held April 5, 1885, the following resolutions were unanimously adopted:

Whereas, In the Providence of Almighty God, our colleague and friend, James Lawrence Little, M. D., one of the founders of this school, has been removed from us by death; therefore,

Resolved, That in the death of Dr. Little this institution and our profession have lost an accomplished and successful teacher and practitioner of surgery, and one who was also a wise counselor in all the interests of the medical profession and a firm friend and supporter of all efforts to advance its position.

Resolved, That we shall ever cherish the memory of his life, characterized as it was by scientific and philanthropic devotion to his calling, unblemished integrity, and genial relations with his associates.

Resolved, That a copy of these resolutions be signed by the officers of this school, and sent to the "New York Medical Journal" and the "Medical Record," for publication.

[Signed.] { D. B. St. John Roosa, M. D., *President.*
Frederic R. Sturgis, M. D., *Secretary.*

The Meeting of the American Medical Association.—At the request of many members of the association, the Illinois Central Railroad Company has arranged to run a special train of Pullman buffet sleeping-cars for members, together with their families and friends, who may wish to attend the meeting, which is to be held in New Orleans on Tuesday, Wednesday, Thursday, and Friday, April 28th, 29th, and 30th, and May 1st. The train will leave Chicago Saturday evening, April 25th, at nine o'clock, and run through to New Orleans without change of cars, arriving at nine o'clock the following Monday morning. The rates will be as follows: Round-trip tickets good for fifteen days, $20; for forty days, $25; until June 1st, $30. Those who wish to return by a different route, by way of Louisville, Cincinnati, or St. Louis, will be provided with tickets at $5 in excess of these rates. The sleeping-car rates, from Chicago to New Orleans, will be $6 for one double berth, and $12 for a section. Early application should be made to Mr. C. S. Burton, Ticket Agent, 121 Randolph Street, Chicago, or to the General Passenger Agent, Mr. A. H. Hanson.

Military Hospital Construction.—The "Scientific American" states that at the recent international conference of the societies of the Red Cross the Emperor of Germany offered a prize of 5,000 f. and a gold medal for the best model of a soldiers' barrack and field hospital, and that the delegates from this country have issued a request to American inventors to take part in the contest. The barrack must be large enough to contain twelve beds, easy of transportation, made with interchangeable parts, and capable of being taken down and reconstructed. The designs should reach Antwerp by the 1st of September, when a committee will decide on their merits.

A Cæsarean Operation performed by the Patient.—Several of our European exchanges are giving currency to an account of a case of this sort that was lately presented before a Bohemian medical society. A peasant woman had borne seven children, four of her labors having been terminated spontaneously, two with the forceps, and one by craniotomy. At her eighth confinement she had been in labor ineffectually for two days, with no attendant but a midwife, when she determined to perform the Cæsarean section upon herself, as she had once heard a description of that operation. Seizing a razor, she made an incision in the median line of the abdomen, which she carried down to the uterus. She then opened the uterine cavity with a bold cut, and extracted a living child, together with the placenta. A few hours afterward the physician who reported the case found her exsanguinated, and with a dreadful wound of the abdomen, from which a coil of intestine protruded.

Her surroundings were filthy in the extreme. The intestine having been cleansed and returned within the abdomen, the incision was closed, an antiseptic dressing was applied, and the patient made a perfect recovery, without a bad symptom. It is said that there is every reason to believe the story.

THERAPEUTICAL NOTES.

Ergotin in Pulmonary Affections.—Simol ("Siglo Méd."; "Union méd.") speaks highly of this drug in connection with the treatment of bronchitis and the congestive stage of pneumonia, although he acknowledges that its action is simply palliative. He states that it relieves dyspnœa, lowers the temperature, and aids expectoration.

Ergotinine.—Chabazian ("Gaz. hebd. de méd. et de chir.") prefers this alkaloid to ergotin in the treatment of post-partum hæmorrhage dependent upon uterine inertia. He injects subcutaneously from five to fifteen minims of a one-to-one-thousand solution. It is better, he says, to use small doses frequently repeated than to administer a single large dose, because unpleasant toxic symptoms may follow the latter. The advantages of ergotinine are said to be that its action is more rapid and constant, and that it does not produce the local pain and swelling that are so often observed after hypodermic injections of ergotin. Moreover, the dose of the alkaloid is much smaller than that of ergotin.

Euphorbia Pilulifera.—Marsset ("Bull. gén. de thérap.") has made a careful study of this drug. Its active principle is described as being soluble in water and in alcohol. Given in minute doses to animals, it first accelerates the movements of the heart and lungs, and then arrests them completely, acting directly upon the medullary centers. Locally, it is non-irritating, except to the mucous membrane of the stomach. The writer recommends the drug in attacks of dyspnœa, especially of the asthmatic variety, fifteen grains of the dried plant being given daily, in divided doses before meals.

Pelletierine.—Schröder ("Arch. f. exper. Path. u. Pharm."; "Ctrlbl. f. klin. Med.") reviews the observations that have already been made concerning the action of this alkaloid of the pomegranate, and gives the result of his own experiments. He recommends the sulphate as a valuable tæniacide, the dose being five grains, followed in about half an hour by a cathartic. He adds the caution that atheroma of the arteries should be regarded as a contra-indication to the use of pelletierine, as the drug causes an increase of the arterial pressure.

Carbolic Acid in Indigestion.—Berdoe ("Brit. Med. Jour.") has frequently treated acid dyspepsia with small doses of carbolic acid. He uses a solution suggested by Dr. Fenwick, containing one part of the crystallized acid in four parts of glycerin, and gives from five to ten minims as a dose, either merely diluted or mixed with nux vomica or liquor opii sedativus, the latter being added in case of pain. He does not attempt to explain the action of the drug, but suggests that its efficacy may be due either to its anti-fermentative power or to the anæsthesia which it induces in the gastric mucous membrane.

Naphthalin in the Treatment of Typhoid Fever.—Götze ("Ztschr. f. klin. Med."; "Dtsch. Med.-Ztg.") reports thirty-five cases of typhoid fever treated at Rossbach's clinic with fifteen-grain doses of naphthalin, the daily amount sometimes reaching to between ninety and a hundred grains. Seventeen of the cases were "aborted"—that is, the fever was arrested within ten days from its beginning. In nearly every instance the duration of the disease was shortened, and the morning remissions became unusually pronounced as soon as the treatment was begun. In only one case were unpleasant after-effects observed, a slight cerebral disturbance occurring after the patient had taken a hundred and five grains. The kidneys were never affected.

Faradization in the Treatment of Intermittent Fever.—Grigorjew ("Russkaja Medicina"; "Dtsch. Med.-Ztg.") has employed local faradization twice a day, for fifteen minutes, in this affection, and reports that by such treatment he has cured eight out of twenty patients. Seven were cured by general faradization. It is stated that the attacks ceased after six *séances*. The manner of applying the electrodes in the former cases is not stated; but, from the fact that the author refers to a marked diminution in the size of the spleen after each sitting, it is fair to infer that the current was passed through that organ.

Common Salt in the Treatment of Pleurisy.—Schulz ("Dtsch. med. Wchnschr."; "Dtsch. Med.-Ztg.") has had ample opportunity to confirm a statement made by Robinson with regard to the efficacy of chloride of sodium in the treatment of pleuritic effusions. In a series of cases of acute pleurisy a tablespoonful of a one-to-thirty solution was given every two hours, dry diet being at the same time imposed. Under this simple treatment the exudation diminished rapidly, and the quantity of urine passed was noticeably increased. It is stated that the appetite was improved, and that there was an absence of that thirst which would naturally have been expected. The treatment should be restricted to cases of simple exudation, as it is useless in empyema.

Bisulphide of Carbon in the Treatment of Neuralgia.—The "Union médicale" contains the following suggestion with regard to "pure neuralgia" (*névralgie pure*), not due to any local cause: Pour ten or fifteen drops of bisulphide of carbon upon a bit of cotton and apply it directly to the seat of pain, care being taken that the liquid does not evaporate too quickly. A feeling of warmth is first experienced, then a slight painful sensation, which vanishes as soon as the cotton is removed. The relief is said to be immediate, and no local lesions are observed, except a temporary redness of the skin.

Lactic Acid as a Caustic.—Von Mosetig-Moorhof ("Ctrlbl. f. Chir.") applies the concentrated acid to fungous granulations, lupus, and epithelioma, in preference to any of the common escharotics, his reason being that, while it thoroughly destroys not only the cells of the new growth, but also the stroma and nutrient vessels, it spares the healthy tissue. His method of making the application is as follows: The surrounding healthy parts are covered with a layer of simple cerate, then a piece of cotton saturated with the acid is placed upon the diseased tissue, and covered with goldbeater's skin, a bandage being applied over the whole; or a paste may be made of lactic and silicic acids, which can be spread over the affected surface. The bandage is removed after twelve hours, and a simple dressing substituted. The pain attending the application is said to be slight. From five to seven applications are generally sufficient for the cure of an ordinary case of lupus, and the resulting scar is invariably soft and smooth.

The Elastic Bandage in the Treatment of Incarcerated Hernia.—Jakowlew ("Wratsch"; "Ctrlbl. f. Chir.") speaks highly of compression by means of the elastic bandage in cases in which taxis has failed and the surgeon does not feel justified in operating. The use of elastic compression should not be continued longer than twelve hours. Five successful cases are reported out of six in which urgent symptoms were present and taxis had been applied in vain.

The Action of Warm Water upon the Gravid Uterus.—Auvard ("Bull. gén. de thérap.") reports the result of a number of observations made for the purpose of determining whether warm vaginal injections could be used with safety during pregnancy, and whether they had any influence upon the course of labor. He decides that water at a temperature of 48° C. (= 118·4° F.) does not cause uterine contractions, if injected slowly and gently into the vagina. Kiwisch's results with injections of warm water for the purpose of inducing premature labor must therefore, the author thinks, have been due either to the violence of the treatment or to the fact that other means were employed in addition. If these injections are practiced every half-hour during the first stage of labor, the os dilates rapidly and with less pain than when they are not used.

The Action of Caffeine on the Conjunctiva.—Like several other experimenters, Argyll Robertson ("Brit. Med. Jour."), having noticed the similarity in the chemical composition of caffeine and cocaine, has been led to try the effect of the former on the conjunctiva. After the instillation of a few drops of a one-to-six solution, dilatation of the pupil and slight injection of the conjunctiva were the only effects observed; in no instance was there any anæsthesia.

An Inhalation for Coryza.—Hager ("Union méd.") recommends the following formula:

Pure carbolic acid........................	150 grains;
Ammonia water........................	3 drachms;
Alcohol..................................	1 ounce;
Distilled water..........................	5 drachms.

A piece of cotton saturated with this mixture is placed in a wide-mouthed bottle, and the vapor is inhaled.

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Original Communications.

ANTIPYRINE AND ITS EFFECTS.*

By WILLIAM H. DRAPER, M. D.,
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It is a striking fact that, while the progress of science adds little to our knowledge of the essential nature of fever, it continues from time to time to enlarge our resources for its control. One of the latest contributions to the means of subduing the heat as well as the other symptoms of fever is antipyrine. This substance, which has been brought to our notice within the past year and which has already been the subject of extensive physiological and clinical experiment, was discovered by Knorr, of Munich. It is one of the many derivatives of coal-tar, and most of us probably will be none the wiser for the assurance that it is a dimethyloxychinizine. It is a crystalline, grayish-white powder, with a faint tarry odor and a slightly bitter taste, soluble in alcohol and in double its weight of water. Its physiological effects on animals have been investigated by Professor Demme, of Berne,† who found that in single large doses (0·35 grm. in frogs and 1 gr. in rabbits) it caused death by cardiac paralysis. With smaller doses (0·03 in frogs and 0·5 grm. in rabbits) central nervous symptoms appeared, first excitability of brain and cord, and subsequently paralysis.

The irritability was shown by general muscular tetany and increase of blood-pressure (vaso-motor), and the paresis by general loss of irritability and failure of blood pressure, in spite of cardiac integrity. In mild cases of antipyrine poisoning Demme found that caffeine hypodermically increased the irritability of the nerve-centers. The poisonous doses for the human subject have not been determined, but, from his experiments on animals, Demme concludes that single doses of 0·2 in children up to five years of age, 0·5 in those over five, and in adults 2·0 grm. should be given only when patients are under constant observation.

Antipyrine was first used in the treatment of fever by Filehne,‡ of Erlangen. He found that it reduced a high temperature 40° C. (104° F.) and upward to 38° C. (100·4° F.) without secondary effects, with the exception of the occasional occurrence of sweating and vomiting. The reduction took place by gradual defervescence in the course of two or three hours from the administration of the first dose, and usually lasted from seven to nine hours, sometimes for a longer period, the temperature returning to its former height without the occurrence of a chill, as is usual after the antipyresis produced by kairine. He found, also, that the pulse followed approximately the temperature curve.

Filehne's method of administering antipyrine is by distributing five or six grammes over a period of two hours in doses of two grammes repeated at intervals of an hour.

Guttman* confirmed Filehne's observations in twenty-seven cases of high temperature. He found that doses of half a gramme, given in six consecutive hours, effected but slight reduction, and only for a short time. Guttman noticed occasional sweats in defervescence.

Biermer,† of Breslau, reported by Alexander, tried it in fifteen cases of high temperature in different diseases, according to Filehne's method. The temperature generally fell to normal. He noticed sometimes a very marked sweat, which began after the first dose of two grammes. The depression of temperature lasted longest in typhoid fever, and for the briefest period in pneumonia. In relapsing fever it was reduced to normal and kept there by repeated doses. He found that antipyrine, given in the beginning of a paroxysm of intermittent fever, shortens it, but does not prevent a recurrence. According to Biermer's observations, the pulse usually falls with the temperature, sometimes at a later period, and occasionally not at all. He speaks of vomiting and other secondary symptoms as of rare occurrence. May‡ found antipyrine especially efficacious in the fever of pneumonia. He noticed slight chills, vomiting, and sweating as sequences of its administration, and in one instance collapse which he did not ascribe to the antipyrine. Falkenheim# saw the temperature fall to 34·8 C. (93·8° F.) in a feeble girl with typhoid fever. He also found that it failed to prevent a recurrence of the paroxysm in intermittent fever. Alexander, in his observations in Biermer's wards in Breslau, found that in typhoid fever it lowered the temperature and pulse, but did not shorten the disease. It affected the sensorium favorably. In acute rheumatism he thought it had a specific effect on the joint lesion. Besides lowering the temperature, Alexander also noticed the occurrence, in three cases, of an eruption like measles, and in one case it always provoked an urticaria.

My own experience with this drug was obtained during my late service in the New York Hospital, and mainly in the treatment of typhoid fever. My predecessor, Dr. Peabody, had already been experimenting with it when I assumed the service in October. He had been somewhat embarrassed in his experience in consequence of the short supply of antipyrine in the market in the early part of the autumn, but he had been much impressed with the certainty of its antipyretic action, and especially with its tranquillizing effect upon the nervous symptoms of fever.

My observations were made on twenty cases of typhoid fever. A table of these cases, which has kindly been prepared for me by Dr. Thayer, the able senior assistant physician at the New York Hospital, will show that the majority of these cases were severe in type, having numerous complications, and several of them continuously high temperature.

Of the 20 cases, 17 were males and 3 females. Three were between 15 and 20 years of age, fourteen between 20 and 30, and three between 30 and 35. Five died and fifteen recovered, showing a mortality of 25 per cent. Of the

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* Read before the New York Academy of Medicine, April 2, 1885.

† "Fortschritte der Medicin," October 15 and November 1, 1884.

‡ "Zeitschr. für klin. Med.," Bd. vii.

* "Berl. klin. Wochenschr.," 1884, No. 20.

† "Breslauer Zeitschr.," 1884, No. 11.

‡ "Deutsche med. Wochenschr.," 1884, No. 24–26.

"Berl. klin. Wochenschr.," 1884, No. 24.

five who died, the ages were 18, 22, 25, 28, and 30. One died on the fifteenth day of the disease, one on the twenty-fifth, one on the thirty-seventh, one on the fifty-fifth, and in one the duration of the disease could not be ascertained.

The highest temperature recorded in the fatal cases was as follows: 107·6° on the twenty-fourth day; 105° on the twenty-ninth day; 105·6° on the fifth day; 105·6° on the fifty-third day; 104·4° on the twentieth day.

The average temperature in the fatal cases was 101·4°, 102·4°, 104·4°—under baths 102°; under antipyrine 102·4°; under baths 101·2°; under antipyrine 101·1°.

The highest temperatures recorded in cases of recovery varied from 103° to 106·6°.

The average temperatures varied from 100·6° to 103·6°.

Vomiting was a frequent symptom, occurring in fifteen of the cases. Diarrhœa was a marked symptom in seven cases. Constipation occurred in eight cases; hæmorrhage from the bowels in two cases; sweating, repeated and more or less profuse, in six cases.

The nervous symptoms were notably few. Delirium occurred in four cases only; marked deafness in one; headache in seven; vertigo in two; tremor and subsultus in one; involuntary movements in one; semi-coma in one; and chills in six.

The antipyretic treatment adopted in all of these cases was the application of cold, either by sponging or baths, or the administration of antipyrine. The method of administering the antipyrine was that recommended by Professor Filehne. The maximum dose was 75 grains, given in three portions of 30, 30, and 15 grains at intervals of an hour. The pretty uniform effect of this dose was in accordance with the statement of Filehne, to reduce a temperature of 104° or 105° to 100°, or even to the normal, by gradual defervescence within three or four hours from the administration of the first dose. The depression continued from four to nine hours, when the temperature would begin to rise without the chill, which occurs after the use of kairine, usually attaining the maximum again in the course of twelve hours. It was rarely necessary to use more than 150 grains in the twenty-four hours to maintain the average of the temperature from one to two degrees below what might reasonably have been anticipated without its use. The pulse, as a rule, followed approximately the temperature curve, and the general effect upon the nervous symptoms was such as is usually observed in antipyresis from any febrifuge.

In all the cases the antipyrine depressed the temperature. In one case it failed to lower the temperature when given by the stomach, but did so when used hypodermically. In another case its administration occasionally failed to diminish the fever.

The effect on the pulse was generally to diminish the frequency and increase the strength of the pulse. No marked depression of the heart's action was noted.

One of the most marked and most uniform effects observed was the moistening of the tongue. Sweating, more or less profuse, was caused in six of the cases.

Vomiting was provoked by the drug, occasionally, in six cases.

The nervous symptoms were, as a rule, favorably affected by the antipyrine. In only one instance did it seem to depress the spirits. Generally it quieted delirium, cleared the intelligence, diminished deafness, and allayed restlessness and subsultus. It was noticeable that the patients looked less listless and seemed more comfortable when under the influence of the drug.

In six cases the administration of the antipyrine caused an erythematous rash resembling measles, and in one instance a macular eruption presenting a purpural appearance. These eruptions caused but little irritation, and faded in the course of a few days without discontinuing the remedy.

The urine was carefully examined throughout the course of all the cases, and presented no other changes than those usually observed where the disease is complicated with a parenchymatous nephritis. No change of color was observed such as has been noticed after the administration of kairine. A summary of a table, showing the number of days during which each patient was under the influence of antipyrine, the total number of doses, and the amount of the drug in grammes, gives the following results:

Of the five patients who died, one took 10 grm. in ten doses during a period of five days.

A second took 27 grm. in seven doses during a period of six days.

A third took 34 grm. in twenty-one doses during a period of eight days.

A fourth took 48 grm. in ten doses during a period of seven days, and the fifth took 321 grm. in sixty-five doses during a period of thirty days.

Of those who recovered, the shortest period during which the drug was given was one day, the number of doses two, and the amount 3 grm. In this case the temperature was reduced on the sixteenth day of the disease from 104° to 94°, and never rose afterward above 101°. The patient was discharged cured at the end of the sixth week. The largest amount administered was 334 grm. in one hundred and ten doses during a period of twenty-three days. This was a case of exceptional severity of forty days' duration, and with continuous high temperature, complicated with diarrhœa, involuntary movements and repeated chills. The antipyrine occasionally provoked vomiting and sweating, and caused a very copious erythematous rash, which was followed by an eruption of furuncles. The most marked reduction of temperature in this case was from 103·8° to 98°.

In a second case of great severity, which was discharged cured on the fifty-third day, 244 grm. were given in forty-nine doses during a period of thirty-three days. In this case, the highest temperature noted was 106·6° on the fortieth day of disease, the lowest 96·6° and 97·2° on the forty-seventh and forty-ninth days, respectively. The average temperature in this case was 103·6°, the highest noted in any of the cases.

In a third case of recovery, which was discharged on the thirty-ninth day, in which the highest temperature was 105° on the nineteenth day, and the lowest 97° and 97·6° on the eighth and thirty-sixth days, the average for the whole period of the fever being 101·35°, the patient took 257 grm. in fifty-five doses during a period of twenty-three days.

This case was complicated with hæmorrhages from the nose, gums, and bowels. A fourth case, which was discharged cured on the thirty-ninth day, took 159 grm. in thirty-two doses during a period of twenty-one days. The highest temperature in this case was 105° on the thirtieth day, the lowest 98·4° on the twenty-second. The average for the whole period of fever 101·7°. This case was complicated with diarrhœa and delirium.

In the remaining ten cases of recovery, antipyrine was used in amounts varying from 25 to 85 grains. It should be noted that, in the four cases in which the largest amounts of antipyrine were administered, chills and more or less profuse sweating were observed, and also vomiting. In two of these cases the drug produced a profuse rash, and convalescence was complicated with furuncles.

In three of the cases the effect of the antipyrine in reducing the temperature was contrasted with the effect of the cold bath. The average temperature in one case, while the baths were used, was 104·4°, under the antipyrine the average was reduced to 102·2°.

In a second case the reduction of the average temperature under the two methods of treatment did not present so striking a contrast; under the baths the average temperature was 102·4°, under the antipyrine 101·2°.

In a third case the difference was not a notable one.

In a case of puerperal septicæmia with a very high temperature, in the service of Dr. Peabody, the baths failed to make a decided impression upon the temperature, but the antipyrine promptly reduced it.

In a case of perineal abscess, in which the temperature on admission was 105° +, a dose of 75 grains of antipyrine was promptly followed by a reduction to 93°. It was a striking feature in this case, as in several of the typhoid fever cases where this collapse temperature was produced, that there was no other sign of collapse; the pulse remained good and there was no marked disturbance of the capillary circulation.

I have made no systematic observations with antipyrine in other diseases than typhoid fever, but I have used it in pneumonia, scarlatina, in intermittent fever, and in tuberculosis. It has invariably reduced the temperature, and while it has not seemed to alter the course of the disease it has relieved the discomfort due to the fever and evidently contributed to the well-being of the patient.

It will be observed that these observations confirm all that has been claimed for this drug by the experience of the authorities quoted at the beginning of this paper.

In estimating the therapeutical value of antipyrine it is important to bear in mind that thus far our experience only justifies us in commending it as a very certain and apparently a safe means of reducing temperature. We have as yet no statistics which enable us to compare its merits in this respect with the application of cold. Whether the antipyresis produced in this way will reduce the mortality of typhoid fever, as Brand, Liebermeister, and others claim that the antipyresis produced by cold has done, and whether it will act as efficiently as cold in pure thermic fever, are questions that remain to be determined by more extended experience.

There is as yet no substantial reason to believe that antipyrine modifies in any material way the course of the diseases in which it has thus far been administered. This circumstance, however, offers no objection to its use. The dangers which arise in many diseases from long-continued high temperature can not be questioned, and, until the complex problem of fever is solved and our knowledge of its essential causes enables us to apply rational principles for its relief, we must be content to treat it as a symptom, and seek by safe means to control its effects.

It seems idle to speculate as to how antipyrine reduces temperature. It may be assumed, from what experience has thus far taught us, that it is not an antipyretic in the sense that quinine and the salicyl compounds are antipyretics. These are ideal antipyretics in the diseases in which they exert their power. They neutralize the cause of the fever. Antipyrine smothers but does not extinguish the fire. Whether its antithermic action is the result of a chemical effect upon the process of oxidation, or whether it exerts an inhibitory influence upon the nervous centers that control nutritive processes, it is vain, in the present state of our knowledge, to inquire. It certainly affects favorably all the nervous symptoms of fever, and this, together with the fact that it sometimes, in excessive doses, causes vomiting, sweating, chills, and collapse temperatures, would seem to show that the nervous centers are primarily affected by it. But, as we have said, this is at present idle speculation.

The only conclusions which can be safely drawn from our experience with the drug thus far are:

1. That it is an efficient means of reducing temperature.

2. That it is apparently a safe means of reducing temperature, if prudently administered and carefully watched.

3. That while it does not, so far as our present experience demonstrates, markedly modify or abort the diseases in which it has been administered, it does manifestly contribute to the comfort of those who are suffering from high temperature.

4. That its administration is occasionally accompanied with unpleasant effects, which more than counterbalance the benefits to be derived from the reduction of temperature.

5. That a more extended experience in its use and methods of administration may so formulate the conditions for which it is especially adapted that it will prove a precious contribution to the resources of therapeutics.

THE ERUPTIVE FEVERS

IN THEIR RELATION TO CEREBRAL TUMOR AND OTHER DISEASES OF THE NERVOUS SYSTEM.*

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A large number of the diseases of the nervous system are slow and insidious in their onset and progress; for this reason they are often passed unobserved in their early stages by the general practitioner, and even by the specialist. The somewhat advanced stage of these diseases when recognized, and their chronic course, together with the pathologic changes which are occurring in the nerve tissue and its supporting framework, the neuroglia, under these conditions are unfavorable for treatment. Some of these conditions, which might, by a very early recognition, be treated successfully under these circumstances, pass to chronic states, treatment of which is only palliative.

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More and more we seek after the ætiology of these states; with this knowledge of ætiology goes our power of prognosis. Our abilities in this direction spread with our increasing knowledge of the origin of these diseases. We seek the changes occurring in the vascular system either as endarteritis or periarteritis; from vitiated blood-supply by the introduction into the circulation of foreign material, such as the syphilitic virus, the poisons of infectious diseases, or in the circulation of products of defective assimilation. The predisposition of the nerve-centers to disease, owing to primary abnormities in structure, or lack of harmony in the construction of the various parts of the machinery, renders them liable to be easily disturbed in their harmonious action, soon giving way in certain places, causing either one or the other form of functional, then structural disorder. These abnormities in the structure of the central nervous system play quite a prominent part as predisposing causes of its diseases, as instanced in the degenerative insanities, epilepsies, and many other states. Thus studies on ætiology, although not directly pointing to special lines of treatment, are valuable in that they point the way backward along which we should go to meet and ward off these diseases, and there alone in many of these conditions must we expect to combat them. If one casts a glance over the various fields of medicine he will observe that great efforts are being made in the study of the causation of disease, prominently shown by the active study of micro-organisms.

I beg first to direct your attention to the subject of cerebral tumor. I must confine myself entirely to the subject of cerebral tumor in children, as it is in the case of these little ones alone that I can suggest anything new. A search through works on diseases of children or diseases of the nervous system gives us no satisfactory information as to the causation of cerebral tumor, neither do the works on diseases of children indicate the possibility of tumor as a sequela of the eruptive fevers of which children are mainly the subjects. A search through a large number of medical journals issued in the past ten years has brought to my knowledge but very few recorded cases of cerebral tumor in children, with or without autopsies, and in very few of the cases found has there been any indication of what might possibly be the cause of the tumor.

The absence of recorded cases may be due largely to the reluctance of parents to grant permission for autopsies on their children. In the past six or seven years, during which time I have seen a few cases of cerebral tumor in children, I have been struck with the fact that most, if not all, of them followed very soon upon an attack of measles. This so impressed itself upon my mind that I began to look upon the measles as the cause of the development of the tumor, and I have been in the habit, in the past five or six years, of directing the attention of my medical friends, with whom I saw patients in consultation, to these fevers as a factor in the ætiology of cerebral tumor. In support of this theory I will now give my own cases and the one I have found recorded.

It is not maintained that all cases of cerebral tumor are due to this cause.

Case I (Personal).—A little girl four years of age, the sixth child of a family of seven children, all of whom are healthy and of healthy parents, up to one year and a half ago enjoyed good health. At this time she had an attack of measles, on her recovery from which she had immediately following an attack of scarlet fever, which was mild. These febrile attacks occurred in the spring; in the summer there was first observed some peculiarity in her walking—uncertainty in walking and disposition to sleep. This condition increased until two years ago, when she became unable to stand or walk. No other symptoms had been observed. Examination of the child shows that she is ataxic in the upper and lower extremities, but with no impairment of sensibility, no muscular atrophy, no cephalalgia, and no vomiting. Ophthalmoscopic examination shows white atrophy of both optic nerves and granular indistinctness in outline of the discs, although vision appears good. There is no paralysis of cranial nerves. These symptoms increased gradually until the patient was unable to stand even with support; vision became almost entirely lost; the head began to increase in size, and attained eventually considerable proportions; then she began to be cross and show evidence, by her cries and facial expression, that she suffered pain in her head. This condition increased until the corneæ of both eyes began to suffer trophic changes, with abrasions, slight sloughs, slight purulent secretion, and markedly injected blood-vessels. Vision became entirely lost, and the patient passed gradually into a stupor, no vomiting having at any time occurred. One morning she suddenly had a convulsion and died. No autopsy was allowed.

Case II.—G. W., aged nine years, whose previous health had been good, had a mild attack of measles in April, 1875, followed by unusually severe nasal catarrh. In May the first symptoms indicating disturbance of the nervous system began, consisting of a sort of choreic ataxic movement of the right side, soon followed by severe headaches, vomiting, and coma with convulsions, from which he recovered. The right side soon became paralyzed, and this was followed eventually by contracture and choked disc, with subsequent atrophy and complete loss of vision.

The symptoms progressed until August 24, 1880, when the patient died quietly without convulsion. The autopsy showed a tumor of the left crus. This was a patient of Dr. Seguin's, whom I saw through his kindness.

Case III.—Annie F., aged eleven, was seen in consultation with Dr. Hyde, October 11, 1881. She had always been in poor health. Just a year ago she had an attack of measles, and in July she began to complain first of pain in the calves of the legs, with occasional cramp. On July 19th she suddenly passed into a state of stupor lasting about one hour, then followed by a convulsion which lasted some time. She gradually recovered from this, and afterward had at intervals attacks of vomiting and difficulty in walking, which increased; also impaired vision and diffuse headaches. When seen by me she was in a very feeble condition. Her pulse was 140, and she had marked pallor and atrophy of all the muscles, but mostly in the upper extremities, similar to the atrophy in progressive muscular atrophy. Her muscular power was so much impaired that she could not grasp anything, and was hardly able to walk; but there was no paralysis of the eye muscles. There was complete absence of the tendon reflex. She could count fingers with difficulty at two feet. An ophthalmoscopic examination showed choked disc. This patient died many months after in a convulsive seizure. No autopsy was allowed.

Case IV.—Anna F., aged seven, was seen in consultation with Dr. Healy on November 11, 1882. She was rather tall and slight; her mother was rather nervous. The patient had a mild attack of measles in May of this year, the eruption being quite slight. She recovered rapidly, and in the summer she went to Rahway, N. J. During her stay there she had repeated attacks of vomiting, and complained of vague pains all over her body, first in one place and then in another, and at last complained of pain in her throat. About September it was noted that her pupils were dilated. Toward the end of that month she began to have temporary losses of vision, lasting a few minutes and then passing away. At present she has paralysis of the left third nerve. The pupil is very slightly dilated, and the naso-labial fold is less marked on the left side. She appears to use her right arm and leg a little awkwardly, and there are slight choreiform movements of both upper extremities. She can not count fingers with the left eye, and can do very little better with the right one. There is choked disc in both. This patient eventually had convulsions, then became paralyzed and died. No autopsy was made.

Case V.—Emma H., aged three years and a half, was seen at the Kings County Hospital, with Dr. Arnold, in April, 1882. A few months previous she had a mild attack of measles. She was admitted to the hospital March 27th. When seen, she appeared to be suffering pain and to have defective vision, and, when she attempted to take hold of an object presented to her, to be ataxic. She used both hands well otherwise, so far as could be judged. She remained in bed constantly, and died April 28th. The autopsy showed a tumor of the right half of the pons and the crus.

Case VI. (reported by Dr. Ridge Jones [" British Medical Journal," October 27, 1883]).—Henry A., aged three years, was admitted to the Victoria Hospital for Children May 10, 1883. It was stated that his father was asthmatical and delicate, but that his mother and six other children were well. Two children had died, one of spinal disease and wasting. The mother had had two miscarriages. Two years before admission the patient had measles, and since that time his head had been growing large. He had had fits of screaming at night, putting his hands to his head. About a year before his admission a squint was noticed, and it had continued ever since. He had been wasting for about the same period. During five months, i. e., from May till September, 1882, fits occurred as above described, but ceased until seven weeks before his admission, when the mother noticed loss of power and contraction of the right arm, and that at the same time the head was turned almost constantly to the right side. There was also palsy of the left side of the face, with impaired vocalization. On admission, the head was considerably larger than normal in proportion to the size of the body. There was internal strabismus, but the pupils were equal and dilated. Paralysis of the muscles of the left side of the face, and slight rigidity and tonic spasm of the right arm and leg, were also noticed, and there was optic neuritis. Trophic disturbances of the cornea occurred. On May 10th the temperature began to rise, and between that time and his death, on the 23d, ranged from 100·8° to 107° F., and he passed into a comatose state. The autopsy showed a tumor of the left half of the pons, in its substance. Dr. Gibbs's microscopic examination led him to believe it was composed of tubercle, large giant-cells being visible in a section.

These cases are few in number, it is true, but they are sufficient to point to infectious fevers as a decided factor in the causation of these tumors in children. The nervous symptoms followed very soon after the attack of measles. A year, however, may elapse before any marked nervous symptoms present themselves, as these tumors are of comparatively slow growth.

It has been stated that in most of these cases the attack of measles was of a mild character, and this is in keeping with the fact already observed, that in syphilis of the nervous system there is most frequently a history of very slight secondary manifestations, perhaps with no eruption noticed by the patient, but, a few years after, grave lesions of the central nervous system occur, referable to the effect of this syphilitic poison. Another point which appears worthy of mention here is the very great frequency with which cerebral tumors in children are found at the base of the brain. Is this due to the greater functional activity of the motor tracts and basal ganglia at this age, or to the marked richness in the vascular supply of these parts? The change which takes place in the nervous system, giving rise to these tumors, will be considered subsequently, as at this present time it must be based upon our knowledge of other conditions somewhat similar.

Let us pass now to the eruptive fevers in relation to disseminated cerebro-spinal sclerosis. First, we will glance rapidly over brief histories of cases taken from Marie (" Progrès médical ").

Case I.—In 1879 a man, thirty years old, had typhoid fever. Three weeks after the onset of the fever he was found to have phlebitis of the left inferior member, with marked œdema. The phlebitis was intense and lasted many months, interfering with his ability to walk. Very soon after he recovered from the fever he began to have difficulty in speaking, but it was only in 1881 that he took special notice of it. In 1883 he began to have difficulty in walking, then trembling of the hands and trouble in writing. In March, 1884, he had trembling on voluntary movement of the hands, which was shown very plainly when he tried to bring a glass of water to his mouth. His writing was very irregular.

Case II (Ebstein, " Archiv f. klin. Med.," 1872).—A man, aged forty-four years, had severe typhoid fever from May to August, 1864, and prolonged loss of consciousness took place during convalescence. Then appeared an indistinctness in speaking, and there was partial atrophy of certain muscles of the tongue, together with feebleness and trembling of the upper and lower limbs and of the head on voluntary motion. He died in 1872, and the autopsy showed disseminated sclerosis.

Case III (Kahler).—A boy, thirteen years old, had severe typhoid fever, during which he had sloughing of the buttocks and gangrene of the ear, and remained in bed five months. During convalescence there were marked trembling of the head, intense tremor of the right arm, and difficulty in speaking. Subsequently there were attacks of vertigo and loss of consciousness.

Case IV (Westphal).—A man, forty years old, had ataxia of the upper and lower extremities, involuntary rhythmic movements of the head, disturbance of speech, difficulty of deglutition, etc., five weeks after the commencement of typhoid.

Case V (Chauffard).—A woman, twenty-eight years of age, had severe and protracted typhoid fever. Three months after, there were cincture pains, and marked weakness on the left lower extremity, and she had to remain in bed. Five months after, there were slowness of speech, defective memory, spasmodic walk, exaggerated tendon reflex, and spinal epilepsy.

Case VI (Personal).—In 1874, while assistant visiting physician to St. Peter's Hospital, I saw a man in that hospital, about forty years of age, who had severe typhoid, with marked unconsciousness. As soon as he began to convalesce he was found to have decided difficulty in speaking, so that he could hardly be understood, also ataxia of the lower and upper extremities. There was no nystagmus. He remained in about the same condition up to less than a year ago, when I last saw him. I recognized the connection between the nervous disorder and the typhoid at that time, and considered it due to thrombosis.

These six cases will suffice to illustrate the connection between typhoid fever and disseminated sclerosis.

Variola is not infrequently followed by marked nervous lesions. Westphal has reported some cases.

Case I.—A man, twenty-eight years old, for the first two days of the attack remained in bed as if dead, and appeared to have completely lost consciousness. When the eruption was fully developed, there was a return of consciousness, followed by ataxia of the arms and legs. Seven weeks after the attack there was paresis of the left arm, difficulty and slowness of movement of the fingers were present, but there was no longer any ataxia of the inferior extremities. The gait was spasmodic, and there was impairment of the sense of smell, with difficulty of swallowing and weakened memory.

Changes occur in the central nervous system following scarlet fever.

Case I (Pollard, "Lancet," 1878).—A boy had scarlet fever at two years of age, with violent convulsions. During convalescence trembling was observed, which gradually increased. At the age of five years there was another series of convulsions. At the age of seven years, when he was under Pollard's observation, there were difficulty of speech, tremor of the upper extremities on voluntary motion, and difficulty and ataxic movements in walking.

Case II (Personal).—A girl, twelve years old, had convulsions immediately following scarlet fever, also a certain amount of mental dullness. She often spoke of headache, and had a marked disposition to lean to the left side. There was no curvature of the spine to account for this. She also had frequent epileptiform fits, and evidences of chronic meningitis.

Scarlet fever may also be the cause of mental disorders, two or three cases having come under my observation and several authors having reported cases.

The paralysis following diphtheria will not be considered here, as it does not come within the scope of this paper; neither will we consider nervous lesions following certain cases of pneumonia.

I have now placed before you in a brief manner our present clinical knowledge of this subject, which is so full of interest, and the further development of which is full of promise. I shall therefore leave this part of the subject for your future consideration and clinical observation.

We will now glance in the same brief way at the pathological changes which occur in these cases. Disseminated sclerosis has given, pathologically, the basis for the inferences which follow, because it has been best studied microscopically.

The first part of my paper, which refers to cerebral tumor, can at the present time only be explained pathologically by what we know of other conditions. The explanation which is given of the changes in disseminated sclerosis I shall adopt largely as the explanation of what occurs in the development of cerebral tumors following these fevers.

Marie ("Rev. de méd.," No. 7, 1883), studying the subject of disseminated sclerosis, particularly in infants, alludes to the fact that, although disseminated sclerosis was first carefully studied by Charcot and Vulpian, in 1862 and 1863, it is in the medical literature of England that we find the most information. It was only in 1875 that Dr. Moxon published his first two cases, with autopsies, and since that time many cases have been published.

Kahler and Pick, in 1879 ("Beiträge zur Pathologie und pathologischen Anatomie des Centralnervensystem"), recognized and pointed out the connection between infectious diseases and disseminated sclerosis, and have not hesitated to assign infectious organisms as the cause of these nerve-lesions.

Marie adopts this view and remarks that these cases follow typhoid fever, scarlet fever, etc., and he discusses the hypothesis in the following manner:

Does the infectious agent act by its presence, by its localization in certain parts of the central nervous system, or by the formation of new products under the influence of this infection? These products, passing into the lymphatics of the nervous system, irritate them, and this irritation gives rise to an interstitial proliferation of connective tissue or sclerosis of different parts of the nervous system. It is known that arteritis, more or less generalized, is frequent in infectious diseases. It is known that more or less diffuse arteritis is associated with disseminated sclerosis, and autopsies have shown that this condition follows the distribution of the arteries (Hugo Ribbert, Virchow's "Archiv," xc, 243, and Klein, "Med. Obs.," xvii, 9).

I now show you specimens and drawings of my own, to illustrate this arteritis in disseminated sclerosis.

We must now inquire how this arteritis takes place. In recent years contributions have been made to this subject by H. Martin ("Rev. de méd.," 1881), Guandian ("Gaz. hbd.," April, 1883), and Barie ("Rev. de méd.," 1881). Infectious diseases are frequent causes of arteritis, and a peculiarity about it is that the arteritis is always (?) disseminated. In this connection the observation of Popoff (Virchow's "Archiv," lxiii, 1875) is of interest. He describes in typhoid fever an accumulation of lymphoid cells in the perivascular spaces, which may penetrate among the nerve-cells and give rise to inflammatory irritation.

Blaschko (Virchow's "Archiv," lxxxiii, 3, 471) inoculated a rabbit with the pus from a puerperal arteritis, and found in the cortex of the brain and cerebellum a considerable quantity of capillary emboli, consisting of bacteria in a soft, semi-liquid material, analogous to that which forms the clouds in putrefying liquids; and he thinks that it is these bacterial fragments which block up the capillaries and thus determine the thrombosis.

He has been unable to discover any lesions in the nerve-tissue surrounding these emboli, but Weigert and Cohnheim have discovered in the neighborhood of similar bacterial emboli lesions of the nerve-cells, one of the characteristics of which is the resistance of these cells to the action of coloring reagents.

Heschl ("Wiener med. Woch.," 1880, p. 791) examined microscopically the cerebral cortex of a woman who had died of coma due to the infection of a whitlow. He found that in the neighborhood of the bacterial emboli the cerebral substance was changed into a finely granular mass, in which a few nerve-cells and nerve-tubes could still be seen.

It would appear, then, from the foregoing facts, that the passage through the blood-vessels of blood-carrying, irritating material of any kind, whether it be bacteria or something else, may give rise to vascular and perivascular inflammations, which may subside or go on to the formation of new material in the arteries, etc., bringing about sclerosis of the arteries which is permanent, and which would explain the appearance of symptoms referable to the nervous system after convalescence is established.

Now, to apply what we have learned to explain the development of cerebral tumors following the eruptive fevers would appear to present difficulties, for the reason that the tumor is localized; but I am impressed with the idea, although I am at present unable to demonstrate it to you as I have done with the disseminated sclerosis, that the lesion is primarily a vascular or perivascular one. Further clinical observations, with microscopic examinations, can alone throw more light on this subject.

We have seen by the observation of Popoff that in typhoid fever accumulations of lymphoid cells occur in the capillaries and perivascular spaces of the brain, giving rise to irritative phenomena. This condition would appear to be a possible explanation of the mental disturbances following scarlet fever, etc.

Without trespassing much on your patience, I will allude, before closing, to the importance which a study of the blood-vessels in diseases of the nervous system is assuming. In many of the diseases of the central nervous system microscopic examination shows, I think, that the changes are due to degenerations. I do not use this term in the sense of secondary degenerations, but of degenerations due to nutritive disturbances—physiological degenerations if you please. We naturally ask ourselves what is the starting-point of these changes, and recently much attention has been given to the study of the blood-vessels in all the diseases of the central nervous system. The association between disseminated sclerosis and the vascular changes is pretty well established.

Some writers have even gone so far as to maintain that systematized lesions, such as sclerosis of the posterior columns (Martin and Adamkievicz), are due primarily to arterial changes. This is a view, however, which appears improbable, but the unsystematized lesions may have arterial changes as their starting-point.

The treatment of these conditions must be preventive. After they are fully established, only amelioration can be hoped for.

Children or adults who present markedly neuropathic constitutions, or the children of neuropathic parents, during and after attacks of these fevers, should be watched carefully to see that they recover fully from the effects of these diseases, for it is these children who are most likely to suffer. I will not take up time by giving therapeutic indications, as they will be apparent to you all in the nutritious and digestible diet, friction, baths, tonics, etc. And if the theory of micro-organisms be accepted for these eruptive fevers, then very small doses of bichloride of mercury, as a tonic, etc., may be advisable during and after the fever.

OTOLOGICAL CONTRIBUTIONS.

By OREN D. POMEROY, M.D.

A CASE OF PAPULO-TUBERCULAR AFFECTION OF THE DRUM MEMBRANES IN A SUBJECT OF HEREDITARY SYPHILIS.

A. M. S., aged eighteen, tall, poorly nourished, has a prominent lower jaw; face and head of the shape of subjects of hereditary syphilis. His teeth also are badly developed, resembling those in hereditary syphilitic cases. He does not admit ever to have had syphilis, but does acknowledge a gonorrhœa. About four months since he was attacked with an interstitial keratitis from which he has nearly recovered under constitutional treatment, with some of the usual local applications. On July 18, 1883, after indulging in a somewhat excessive amount of beer, his eyes had a serious relapse, and he found that his hearing had become somewhat affected, the trouble dating back about four days. On July 23d his deafness still continuing, the drum membranes were inspected. The right showed considerable congestion about the short process and the manubrium.

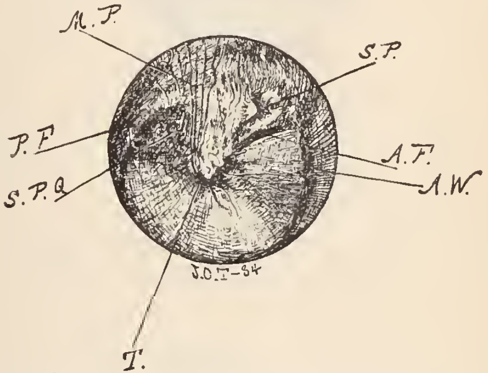

Fig. 1.—S. P., short process; posteriorly is seen the whitish-looking material described in the text. M. P., manubrial plexus of vessels. P. F., posterior fold of the membrana. S. P. Q., superior posterior quadrant.

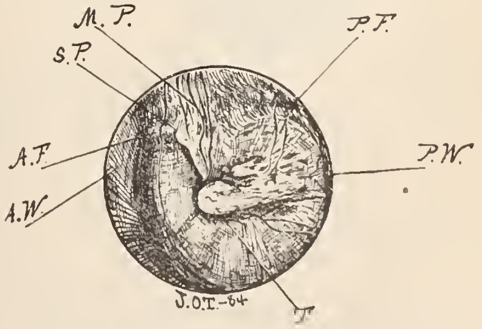

Fig. 2.—S. P., short process; malleus-handle distinctly seen below. T., tumor. P. W., posterior wall. P. F., posterior fold. M. P., manubrial plexus of vessels. A. F., anterior fold. A. W., anterior wall.

Along the line of the malleus-handle is a whitish-looking appearance resembling softened epidermis, but, on attempting to remove it by a bit of cotton, it was found firmly adherent. Elsewhere the membrane is somewhat opaque, and there is no light spot. The left membrane shows some redness along the malleus-handle; light spot present, but placed a little above the umbo. Behind and just below the malleus-handle is a triangular grayish mass somewhat resembling the appearance in the other ear, but more prominent and marked. This also can not be removed by the cotton-wool. The hearing of the R. is w. 2½″, of the L. w. 4″. Bone conduction is decidedly better in the left ear.

July 27th.—Hearing in R. w. 1″, in L. w. 3″. Bone conduction the same in each ear, although there was some difficulty in eliciting intelligent replies.

August 1st.—Hearing in the R. w. contact, and 1½″ in L. No improvement on inflating the drums; considerable redness about the malleus-handles and short processes in each ear; corneæ are clearing, and pain in the eyes yields to atropine. On August 3d, the whitish spot of infiltrated epidermis has disappeared from the right membrana, leaving the membrane reddened and thickened, with a rounded elevation behind and somewhat on the manubrium; hearing as before. In the left the grayish spot has much increased in size, and has a nodular appearance. Hears the w. only on contact. This nodule has been present for only two days; bone conduction about the same in each, though the observation is not positive.

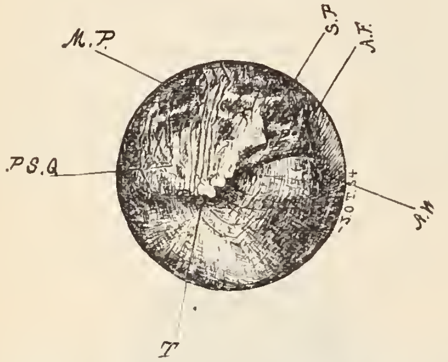

Fig. 3.—T., tumor, S. P., short process: the manubrium seen for a little distance. A. F., anterior fold. A. W., anterior wall. M. P., manubrial plexus. P. S. Q., posterior superior quadrant of the membrana.

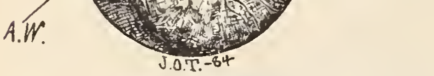

Fig. 4.—T., tumor. S. P., short process; the manubrium may be seen for a portion of its course. M. P., manubrial plexus of vessels. P. F., posterior fold. P. W., posterior wall. A. W., anterior wall. A. F., anterior fold.

6th.—The swelling in the left has decreased in size, and the membrana is much more vascular in the region of the tumor. The left ear hears the watch on contact, and the right, the watch pressed. Bone conduction better in left.

8th.—General condition slightly improved.

14th.—The lower notes of the piano heard somewhat better than the higher; bone conduction in the right the same as the aërial, and in the left somewhat better.

September 10th.—The vessels on the left membrana surrounding the swelling are much diminished in size. Eye symptoms continue, but with less intensity. Constitutional treatment continued. Left hears the watch gently pressed, right somewhat less.

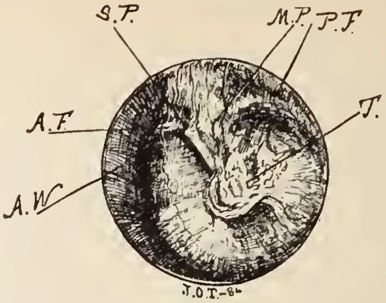

Fig. 5.—T., tumor. S. P., short process; nearly the whole of the manubrium is visible. M. P., manubrial plexus of vessels. P. F., posterior fold. A. F., anterior fold. A. W., anterior wall.

October 10th.—H. D. R. w. 1½″, after inflation the same, H. D. L. w. o., after inflation w. pressed. Tuning-fork heard better by aërial conduction; bone conduction somewhat diminished; appearances of membrana unchanged, except that the blood-vessels are large and distinct; ordered to go into the country. Three months afterward, the patient having been in the country, the eyes are much better, though not well. The drum membranes are looking nearly normal. The H. D. R. is w. 2″, L. w. contact, no change by inflation. This has been the condition during the whole progress of the case except in one or two instances, where the hearing has been slightly improved by inflation. Tinnitus has hardly been complained of at all. Tuning-fork observations the same as in the last record.

I conclude that the tuning-fork tests pointed to a suspicion of labyrinthine disease, but actual proof of that does not exist. The appearance in the right ear has not been minutely described, it being similar to that of the left, only the tumor was much smaller and disappeared sooner. One marked feature of the appearance was the great size of the blood-vessels, which in the pen drawings are represented by black lines. The drawings represent the tumors as grayish or whitish, but after a few days the color was a dull red. After the swellings had entirely disappeared, vessels of considerable size remained. I infer that the tumors were in the dermal layer of the membranes. The whitish appearance at the first, I conclude, was due to infiltration of the epidermis, which was soon thrown off. There was no evidence of its being a hypertrophy of the epidermis. The superficial position of the tumors was evident from the facts that the malleus-handles and short processes were distinctly behind the tumors, that there was no approach to perforation of the drum membranes, and that the superficial position of the markedly injected blood-vessels indicated that the deeper portions of the membranes had escaped. As the dermoid layer of the membranes was affected in this process, the tumors would come under the head of a skin affection.

In Bumstead and Taylor on "Venereal Diseases," p. 793, in discussing hereditary syphilis these observations are made: "These later orders of dermal lesions may be papulo-tubercular, or perhaps pustular, but in general they are tubercular, tuberculo-ulcerous, and gummatous." In the case under consideration there was no ulceration, no softening, no scaly appearance, except the removal at first of the epidermis; and it seems to the writer that, in the absence of any literature directly bearing upon this subject, we are justified in making the diagnosis of papulo-tubercular affection of the dermal layer of the membrana tympani. It is not denied that there was more extensive disease than this, there evidently being an inflammation of the drum cavity with exudation into the tympanal lining, including that covering the round and oval windows.

The evidence of labyrinthine complications was not, perhaps, so complete as might be necessary to confirm such a diagnosis. It appears to the writer that evidences of labyrinthine complications in syphilitic affections of the middle ear are perhaps less frequently observed than is generally believed. The illustrations are from pen drawings by Dr. J. O. Tansley, of the Manhattan Eye and Ear Hospital, New York.

CHONDRITIS AND PERICHONDRITIS OF THE AURICLE, PROBABLY OF NEURO-PARALYTIC ORIGIN.

F. K., aged forty-six, applied to the Manhattan Eye and Ear Hospital, on October 27, 1884, for an affection of the auricle. He says that about two weeks since he noticed a small pimple situated near the center of the ear (auricle). This soon gave rise to a watery discharge. After four days the ear began to swell, until every part of the auricle, except the lobulus, was swollen to nearly twice its normal size. A considerable portion of the cheek adjoining the auricle was also swollen, red, and numb (anæsthesic). A carbolic-acid lotion soon relieved this swollen condition. The auricle and the adjacent regions are completely anæsthetic, although this was at first only partial. On the date of application, October 27th, the auricle is much swollen, except the lobulus; red, moist, and with a scurfy state of the epidermis, the appearance resembling that of acute eczema. This scaly material may be removed easily, leaving sound, somewhat reddened skin beneath, except in some of the deeper depressions of the auricle, notably the fossa scaphoidea, where abrasions of the skin are observed. The lesion described by the patient as a pimple, located just behind the concha and within the helix, now presents the appearance of a dark-brown crust which also appears on the posterior surface of the auricle, opposite to the scab in front.

On applying a probe, it is easily thrust quite through the auricle, emerging on its posterior aspect, and showing a complete destruction of all the tissues of the auricle. This was accomplished without sensation on the part of the patient. A sero-sanguinolent and somewhat glairy discharge proceeds from this opening. The patient denies syphilis; has had children. His voice is like that of a child or a woman. The cause of this is found by Dr. Douglas to be dependent on a paralysis of the left vocal cord; this trouble dates back six years. Has some dizziness from inco-ordination. A one-per-cent. solution of acid. carbol. was ordered, with which to bathe the auricle freely.

October 31st, the loss of tissue posteriorly is so far restored as to be nearly healed, the reparative material having filled up the ulcerated place so as to present only a shallow ulcer in front. This is covered by an adhering, yellow-looking scab; signs of reparative action everywhere manifest. The spot in the scaphoid fossa is still covered with a yellowish scurfy material, but, on removal, the skin beneath is perfectly sound. Two days afterward, however, on removal of the scurfy material from this part, the skin beneath was found to be ulcerated. This had now begun to resemble the other and principal ulceration. This yellowish scurfy material still covers other parts of the auricle more like the appearance at first, only the auricle is much less swollen than formerly. On November 3d the ulcer in the scaphoid fossa has healed, leaving a small, yellowish scab, easily removed; auricle less swollen; the principal lesion has nearly healed; posteriorly, the aperture has nearly closed, being covered in mostly by sound skin. This has progressed steadily until November 20th, when the aperture behind is completely closed, and in front, also, it is nearly healed; swelling of the auricle entirely disappeared; no return of sensation to the part. December 1st, auricle nearly restored to its normal condition, but ulceration seems to have commenced again posteriorly opposite to the original ulceration. Behind the ulcerated place the parts are somewhat livid, as though the old condition was about to return. The ulcer was touched with a fifteen-per-cent. solution of carbolic acid several times, at intervals of two days, and the auricle has been bathed several times a day in a solution of bichloride of mercury, one twelfth of a grain to the ounce of water. January 2d, 1885, auricle completely healed, except that just above the old ulceration there is a minute bloody bleb, which was easily ruptured. The upper and anterior portions of the auricle still present somewhat of the former scurfy condition. In addition to the treatment already spoken of, iodide of potassium was given, and the electric brush was applied to the anæsthetic parts; ergot was also administered. There has been no restoration of the paralysis of the vocal cord, nor of the anæsthesia of other nerves. The patient has been seen some months after the difficulty has subsided, and so far there is no relapse.

The case seems to me unique, and quite analogous to the neuro-paralytic affections of the cornea. It is not quite descriptive to call the affection perichondritis and chondritis, as there was added to this an affection of the skin covering the front of the auricle which I never have seen in any true case of perichondritis or chondritis of the auricle.

Dr. Seguin saw the patient in consultation, and reported that there was partial anæsthesia of the left trigeminus, left occipitalis, major and minor nerves, of the left superficial cervical plexus, and of the left ulnar and median distribution, which had continued for one year. External ear (left) almost insensible. Paralysis of left vocal cord dates back six years to an attack of hoarseness; no syphilis. The pathology of this condition seemed to him quite obscure. On account of the absence of neuralgia, he would exclude disease of the trunk of the trigeminus or of the Gasserian ganglia. He thinks this case quite unique, and that the ear affection was the result of mild traumatism, induced, possibly, by scratching the part, together with the subsequent sepsis. He thinks the ear would have remained sound if protected from injury and bacteria, the state of anæsthesia not offering the usual protection from traumatism existing in that of the normal ear.

DIPLACUSIS BINAURALIS.

The following case of double hearing with both ears is sufficiently rare to warrant its publication:

Father C., a Catholic priest, aged forty, has had a chronic catarrhal otitis media in both ears for about two years. The left is nearly normal at present, but he occasionally has the Eustachian tube obstructed; H. D. R. w. $\frac{1}{60}$; after inflation, $\frac{12}{60}$.

At the commencement of the attack, the right ear heard a given note nearly one tone above that of the left; after about a week of treatment (four visits), the faulty note seemed only about a half-tone above its fellow, and, after seven visits, the tone was the same as that of the other ear, except it was somewhat muffled. At the time the right ear heard the note one fourth of a tone higher, there was a repetition of the first sound, like an echo, which would place this ear, perhaps, in the category of diplacusis monauralis.

On the last observation, with the hearing of the right nearly reaching ten inches, sounds seemed muffled in this ear, and high tones were heard better than lower. Bone conduction better in the right ear, although, when both ears are closed, the tuning-fork is heard better in the left or good ear.

At the time the pseudo-note was a half-tone above, the patient heard only the third and dominant of the chord.

ELECTRICITY IN THE TREATMENT OF UTERINE FIBROIDS.

By J. T. EVERETT, A. M., M. D.,
CLYDE, O.

Noticing in your issue of March 7, 1885, a paper by Dr. J. N. Freeman, of Brooklyn, on "Electrolysis as a Cure for Uterine Fibroids," presenting the method as a new departure, and as Dr. A. J. C. Skene and others have replied to his statement quite fully, perhaps anything that a Western practitioner may say upon the subject is superfluous.

However, as it has been my fortune to struggle with these neoplasms somewhat frequently in my professional career, and to have met with a measurable degree of success, I venture to report the same for your consideration.

In the January number of the "American Journal of Obstetrics" for 1878 I published a paper on "The Faradaic Treatment of Uterine Fibroids," citing nine cases, extending from the year 1874 up to that date, in several of which, for obvious reasons, the electrolytic current was used at some stage of the case.

As this subject appears to have received but very little attention at the hands of the profession from that time to the present, perhaps a brief recapitulation of those cases in which the electrolytic current played an important part, with a fuller report of subsequent cases, may not be uninteresting to the many readers of your valuable journal.

In a careful study of these cases there are three lessons to be learned: 1. That for intra-uterine fibroids the faradaic current is amply sufficient to effect a cure, and, for obvious reasons, is the one to be selected, as it causes the uterine muscles to contract, choking off the afflux of blood, thus destroying the vitality of the tumor, separating it from its environments, and assisting in its extrusion. 2. For submucous or intra-mural fibroids the continuous current, from twelve or eighteen cells, will be found to act powerfully as a resolvent, causing the tumor to shrink and solidify, and separate from its capsule. 3. That, where the stronger electrolytic current of from twenty to seventy cells is used, there is intense pain unless anæsthesia is made use of. There is systemic shock, with resultant destruction of healthy and diseased tissue, and suppuration. In this connection it is well to recollect that the nearer the points of entrance and exit of the current, the more rapid the result.

With these introductory remarks, allow me to report the more instructive cases:

Cases I, II, and III were simply small or medium-sized pedunculated, intra-uterine fibroids, with symptoms of excessive hæmorrhage and pain, accompanied by an anæmic and exsanguined condition. These were treated with the faradaic current, one electrode being applied over the sacro-lumbar junction, the other over the abdomen. The effect of these treatments was to control the flow, to destroy the vitality of the morbid growth, and to assist in their destruction and extrusion from their seats.

Case IV.—I was called, July 17, 1874, to see Mrs. H. Le F., a multipara, aged forty-two. I found the patient much exsanguined from the effects of a profuse hæmorrhage, which had prevailed at intervals for the last twelve or fourteen years, but had during the ten previous months been almost constant, and was accompanied by but slight pain. On examination, I found that the uterus extended upward to the ensiform cartilage, occupying fully one third of the abdominal cavity. Internally I found a fibroid tumor filling the entire pelvic cavity and presenting at the dilated os.

As the hæmorrhage was alarming, I gave a hypodermic injection of aqueous extract of ergot, which somewhat lessened the flow and caused slight contractile pains. July 28th, after having exhausted all other methods to control the flooding, I introduced four insulated silver needles three or four inches into the substance of the growth through the vaginal orifice, and connected these with the negative pole of a twenty-cell battery, placing the positive pole, in the shape of a copper disc, on the abdomen. This treatment was followed by a free discharge of serum, which gradually changed to a purulent character in a few days. The treatment was repeated on the fifth day with a similar result. By the 12th of August the bulk of the tumor was greatly lessened. August 20th, I passed a platinum loop around the lower third of the mass, attached a cautery battery, and with gentle traction severed this portion from its fellow. No hæmorrhage, depression, or shock followed. I continued the daily faradizations. September 25th, the tumor being greatly reduced in size and the os well dilated, I passed the platinum loop around the pedicle and removed the tumor, which was of the size of a fœtal head entire. Notwithstanding its enormous size, the patient made a rapid recovery, and has since enjoyed good health.

Cases V and VI were submucous fibroids, and were treated with the faradaic current and cured, respectively, in twenty-five days and in thirteen weeks, with no untoward occurrences.

Case VII was one of pedunculated, intra-uterine fibroid. Three months of faradization destroyed its vitality, and it was twisted from its pedicle and removed with no untoward circumstances.

Case VIII.—I was consulted in the spring of 1876 by Mrs. D. B., aged fifty-eight, the mother of two children. She complained of profuse hæmorrhage, which had been troubling her for some months. I found the uterus extending nearly to the ensiform appendix, bound firmly to the right side, and quite immovable, completely filling the pelvic cavity. The probe passed up beside the tumor eleven inches and a half, revealing a submucous fibroid involving the anterior wall of the womb, and measuring four inches and a half in its transverse diameter. I commenced the faradaic treatment as in similar cases, and continued it with good effect for some months.

January 1, 1877, the tumor was much reduced in size, and the hæmorrhage measurably controlled, but, the progress appearing to be at a stand-still, I thrust an insulated needle deep into the tumor from the vagina, and passed a twenty-cell current through it for thirty minutes. During this treatment the mucous membrane overlying the growth was ruptured, and a portion of the mass bulged out through the rent.

These treatments were continued until January 28th, when a large mass of dead tissue, presenting at the os, was seized with strong forceps and twisted off.

Daily faradization was continued from this time until March 28th, when, as no further improvement was manifested, the patient was anæsthetized, the os freely divided, and the finger passed up along the side of the uterine walls between them and the growth, and several adhesions were broken up.

An attempt was then made to enucleate, but, on account of the dense adhesions at either end, and the alarming hæmorrhage, the attempt was given up. The tumor appeared to merge into the uterine muscles at either extremity, and the womb, in turn, was so firmly bound down by strong bands of adhesion to the circumjacent pelvic walls, that I was forced to content myself with removing by fragments, with the serrated scoop, all the diseased tissue that was deemed safe. The patient recovered from the exhausting effects of this operation with astouishing rapidity. The curette was used three times subsequently, each time removing as much of the neoplasm as it was possible to reach. The last time the morbid growth had assumed a sarcomatous character, which eventually developed by retrogressive metamorphosis into true carcinoma.

Case IX.—I was consulted, August 1, 1877, by Miss C. K., aged thirty-seven. The patient was a pale, cachectic lady of low stature and frail form, complaining of pain in the right ovarian region, with procidentia uteri, leucorrhœa, and at times intense metrorrhagia. Springing from the right cornu uteri was a fibrous polypus of the size of a turkey's egg. The patient was put upon ferruginous tonics and alteratives, and was treated daily with the faradaic current, and every third day with the constant current from eighteen cells. September 3d I pushed two insulated platinum-needles into the substance of the tumor through the abdominal walls and attached a twenty-cell battery to them.

Some pain and prostration following, the original course was resumed, but the tumor remained *in statu quo*. On the 15th I again inserted insulated needles, and passed a twenty-cell current for twenty minutes. On the 25th I used the electrolytic current again for fifteen minutes. On the 30th the same treatment was repeated. October 6th I used the same current for thirty minutes, but with no effect upon the tumor. On the 12th I passed a current from thirty cells, producing some shock. On the 20th forty cells were used, causing marked shock and peritoneal fever, which responded to warm fomentations, opium, and aconite. On the 25th I used sixty cells for twenty minutes, when the patient began to recover from the anæsthesia. Marked shock and depression followed, also fever and peritonitis, but no effect upon the tumor other than to increase its size. The patient, who was a professional nurse, and who knew something of medicine and surgery, desiring a radical operation, and as suppuration was manifested in the tumor, we decided to comply with her request. Accordingly, October 30, 1877, the peritoneal fever being fully under control and the patient in fair condition, she was anæsthetized by my colleague, Dr. S. W. Gillespie, when I proceeded to operate in the following manner. An incision six inches in length was made along the linea alba opposite the region of the tumor. Considerable adhesion was found to exist between the peritonæum and the abdominal walls along the track of the needles. This was easily broken up with the finger and the peritonæum was incised; the tumor, of the size of a turkey's egg, was seized and drawn out through the incision and the pedicle snipped off close to the uterus. The wound was then closed as in ovariotomy, with seven silver-wire sutures over an elastic catheter upon either side of the cut, and all was covered with carbolated dressings.

This was my maiden operation under the spray method, and, notwithstanding recent peritoneal effusion, union by first intention took place throughout the whole incision. The patient made a good recovery, and was discharged, cured, December 16th.

It may be said that, as a uterine fibroid is a benign growth, in no case is a grave operation warranted; this is true in the main, but, after setting up so much inflammation as to lead to suppuration within the capsule of the tumor, it was considered the only way out of the self-inflicted dilemma. The causes of the peritonitis were: first, imperfectly insulated needles, and, secondly, too strong a current allowed to flow too long.

Case X was one of a pedunculated fibrous polypus, which was treated with the faradaic current for two months, when it was twisted off with strong forceps and removed entire. There was but little pain, no shock, and no hæmorrhage. This tumor, somewhat less than a goose's egg in size, was of dense white fibrous tissue, almost cartilaginous in texture.

Case XI was one of submucous fibroid, which promptly responded to the interrupted current.

Case XII was one of intra-mural tumor, which was very stubborn, and was only partially removed after steady daily faradization for three months.

Case XIII was one of pedunculated fibroid, which yielded promptly to treatment.

Case XIV.—I was consulted August 3, 1879, by Miss T. G., aged twenty-two. I found a subperitoneal fibroid, of the size of a fœtal head, springing from the left cornu uteri. I thrust two insulated needles into the tumor through the abdominal walls, and attached a thirty-cell battery for twenty minutes. The pain was so intense, and so much peritoneal inflammation was lighted up, that no further treatments of this character were given until September 4th, when the same treatment was repeated, but with only twelve cells attached. On the 9th, 12th, 15th, 21st, 24th, and 28th the treatment was repeated. The size of the tumor was markedly reduced, but, the general health of the patient failing, this treatment was given up, and, as she had developed tuberculosis, the case went on to a fatal termination from this disease.

Case XV.—I was consulted in June, 1882, by Mrs. B. J. H., aged thirty-six, the mother of two children, the younger ten years of age. Examination revealed a large interstitial fibroid. The patient was also suffering much discomfort from a large bronchocele which, with the neck, measured 18½ inches. I at once put her upon the use of alterative tonic treatment and used daily the continuous current from twenty-four cells, through the vagina and abdomen, and ten cells through the goître.

This was continued for five months, with the effect of lessening the size of the fibroid fully one half, and of bringing the circumference of the goîtrous neck to 17½ inches. November 13th, the improvement of the patient having been *nil* for some time, I anæsthetized her and inserted two gold needles (insulated within an inch of the point) deep into the fibroid through the vagina; the current was passed from one to the other needle for twenty minutes from a twenty-four-cell battery. While the patient was still anæsthetized, the needles were inserted into the opposite sides of the bronchocele, and a ten-cell current was allowed to flow for ten minutes.

This produced some redness in the goître, and left a coppery taste in the mouth. The patient, who now resided seventeen miles from Clyde, did not present herself for treatment again until January 11, 1883. The treatments were again given the same as upon November 11th, and the effects were still more satisfactorily marked.

February 22d, the patient again presented herself for treatment, when the mucous membrane and the underlying muscular tissue of the uterus were found to have ruptured and the fibroid bulged through.

The patient was again anæsthetized, the mass seized with strong forceps, and about a pound torn off. The hæmorrhage was not alarming, and there was no shock. The continuous current was passed from a large silver electrode in the uterus to the positive electrode over the abdomen with thirty cells for fifteen minutes.

During the anæsthesia the bronchocele was again treated with the needles from opposite sides with a ten-cell current for ten minutes. The patient bore the treatment well. The following day she was again anæsthetized, and the large silver electrode passed well up into the uterine cavity, the positive pole attached, and three gold needles were inserted into the goître, two on the right or larger lobe, and one on the left of the isthmus; these were connected with the negative pole and the current from thirty cells was allowed to flow for ten minutes, when forty additional cells were gradually turned on. The patient, though profoundly anæsthetized, showed symptoms of distress; and the elements were slowly withdrawn from the exciting fluid. In ten minutes the patient was seized with violent vomiting, and soon after with profuse purging. For the next six hours she was in an alarming state of prostration, simulating the collapse of cholera. From this state of extreme depression she rallied, and was able to sit up on the fifth day. The fibroid had entirely disappeared, the neck now measured 16¼ inches, and the goître appeared atrophied, hardened, and lifeless, since which time matters have remained *in statu quo*.

Case XVI.—I was called, September 1, 1882, to see Mrs. H. D., aged thirty-two, the mother of one child. She had been suffering for three or four years with pain at the menstrual epoch, excessive flooding, irregular action of the bowels, nausea, weakness, etc. Examination revealed the os much abraded and nodulated, which gave me grave fears of malignancy. In the left ovarian region I found a tumor, about nine inches in length and three or four in diameter, which was attached to the left cornu uteri. I commenced local treatment for ulcerated os, and put the patient upon the use of alterative ferruginous tonics, etc.

I electrolyzed the tumor with a twenty-cell current every seventh day, and used faradaic treatment daily. January 1, 1883, the tumor had entirely disappeared, the os had healed, leaving the cicatrix of an old laceration, and the patient continued to mend until July 17th, when she was discharged cured. The suspicious nodulations never gave any further trouble.

Case XVII.—I was called, March 15, 1884, to see Mrs. J. F. B., aged forty-two, the mother of two children. She had been suffering for seven years, more or less, with excessive hæmorrhage and pain at the monthly epoch. Of late these symptoms had been much exaggerated. I found, upon examination, an intra-mural fibroid larger than a goose's egg. I commenced at once the use of the faradaic current, alternating with the continuous current. Every seventh day I used the insulated needles as in previous cases.

These treatments were continued until March 30th, when, a portion of the neoplasm being extruded through into the uterine cavity, it was seized and removed with but little trouble. April 5th another large mass was removed with equal facility. The treatments were continued until May 23d, when, there appearing to be no enlargement of the uterus and the patient suffering no pain at menstruation, she was discharged fully cured.

The New York Skin and Cancer Hospital.—The annual "kirmess" in aid of this institution was held at the Metropolitan Opera House on Tuesday, the 14th inst.

THE LOCAL USE OF ANTISEPTICS IN GYNÆCOLOGY.

By W. GILL WYLIE, M. D.,

PROFESSOR OF GYNÆCOLOGY IN THE NEW YORK POLYCLINIC; GYNÆCOLOGIST TO BELLEVUE HOSPITAL, ETC.

All instruments should be made with smooth, non-absorbent handles, and so constructed as to be readily cleaned. Scissors, forceps, etc., should be made with joints readily taken apart. Sponge-holders should be made of one piece of metal sawed open, so that the slit can be cleaned perfectly. The use of soft-rubber pessaries can not be justified, for they can not be kept clean while in the vagina. Pessaries with joints should also be avoided. Some years ago, recognizing the fact that leather and plush cases could not be cleaned, I had my instrument-cases and rolls made of canvas, which can be washed, and, by having two or more, one can have ready a perfectly clean case for his instruments. These cases are now made and sold by Messrs. Reynders & Co., and W. F. Ford, with Caswell, Hazard & Co. My rule is, if my patient can not have a trained nurse and abundance of clean linen and bedclothes, to refuse to operate unless she goes to a hospital where these can be had.

Before beginning to operate, in all cases, the vulva and vagina are carefully washed with a 1-to-5,000 solution of mercuric bichloride, all the instruments to be used are put into a 1-to-20 solution of Calvert's No. 1 carbolic acid, and the sponges are put into a 1-to-5,000 solution of mercuric bichloride. If irrigation during the operation is used, I prefer a 1-to-10,000 solution of bichloride of mercury.

All cotton to be used for tampons is made into pads or discs two inches in diameter, and from a quarter to half an inch thick; only the best absorbent cotton is used. These discs are put into a 1-to-5,000 solution of the bichloride, and then squeezed firmly to get rid of most of the fluid, leaving them firm and damp. They are then sprinkled freely with powdered iodoform, and packed away in air-tight glass jars.

Styptic cotton in discs is treated with the 1-to-5,000 bichloride solution, and then put into a 1-to-4 watery solution of subsulphate of iron, and squeezed out and packed away in glass jars.

Sponge-Tents and Dilatation.—Except in rare cases where I desire to dilate the cervix so as to enable me to pass one or two fingers into the cavity of the body of the uterus, I never use tents, for I have found that with Sims's steel uterine dilator I can readily dilate the canal, by taking time, at one sitting, to a sufficient extent to introduce a curette, etc.

When I do use a tent, it is made of the best mocha sponge, and is curved to suit the canal. The gum that is used in making them has some iodoform mixed with it, and the tents are kept in powdered iodoform.

Before introducing the tent I invariably dilate the canal to a slight extent with Sims's curved steel dilators, and, by means of an applicator wrapped with cotton, I apply pure carbolic acid to the surface of the canal. This not only renders it aseptic and removes the danger of sepsis from the probably diseased membranes when drainage is stopped and pressure added by the dilating tent, but it also assures me that the tent has passed beyond and not pushed before it the constricted os internum, and enables me to put in a relatively large tent.

After the tent is put in, the vagina and vulva are again washed with a 1-to-5,000 bichloride solution, and two or more pads of prepared tampon cotton are put up against the exposed end of the tent. Then, with my long-nozzled powder blower, iodoform is blown freely into the vagina as the speculum is withdrawn, and in some cases an antiseptic pad of cotton, squeezed out in a 1-to-5,000 bichloride solution and allowed to dry, is kept over the vulva until the tent is removed. I never leave a tent in longer than twelve hours, for in that time it has done all it can do. I rarely am obliged to put in a second one, and, if I do, it must come out within twenty-four hours from the time that the first one was put in. If this plan is adopted, unless there is a center of septic infection in the uterine appendages or pelvic tissues, there will not be any rise of temperature.

Before using the steel dilator in ordinary cases, the vagina should be washed with the 1-to-5,000 bichloride solution, and before inserting the dilator the blades should be dipped in pure carbolic acid and the excess of acid shaken off. As soon as the instrument is withdrawn, an applicator, wrapped with cotton and dipped also in pure carbolic acid, should be passed into the canal; this acts both as an anæsthetic and as an antiseptic; after this, I usually blow iodoform freely over the cervix and vagina as the speculum is withdrawn.

Curetting.—The cervix can in almost all cases be sufficiently dilated with the steel dilator to enable a medium sized Sims's curette to be passed readily, and the risk of sponge-tents be avoided. After curetting, I apply pure carbolic acid to the curetted surface by passing the applicator through a cervical protector, which enables me to make the application directly to the surface, and prevents most of the carbolic acid from being taken up by the walls of the cervix before it reaches the uterine cavity.

When a Sims's curette has been properly handled, after the removal of the granulations there will be little bleeding, and I make it a rule to wait even half an hour and allow the patient to come partly out from the effects of ether, and, unless the bleeding is quite free, I do not put in a tampon, for it prevents drainage, and when styptic cotton is used it adheres and hardens and can not easily be removed for several days. When all bleeding has ceased, I blow into the vagina about half a drachm of iodoform, wash off the vulva, and put on an antiseptic pad if indicated.

Division of the Cervix.—Here the same plan is followed. If the circular artery is cut, I stop bleeding by passing a silver suture around it, and twisting till the hæmorrhage is controlled. After putting in Sims's glass plug or a stem pessary, or, what I prefer, a hard-rubber drainage-tube, one or two pieces of prepared tampon cotton are placed against the plug, and the iodoform and a vulvar pad are used as before described.

Cancer of the Cervix.—If the cancer is sloughing, as will be indicated by a fœtid discharge, the diseased tissue is soaked by frequent douches of a 1-to-5,000 bichloride solution for at least four hours before the operation, the object being to render aseptic the sloughing mass and thus prevent infection during the cutting or scraping. After removal of the cancer, I stop hæmorrhage by exposing the surface to the air, by the hot-water douche, or by ligature or temporary pressure, and avoid, if possible, a styptic tampon, for it prevents drainage, and, when forced in tight enough to be effective in stopping hæmorrhage, it may split the weakened tissues of the *cul-de-sac* and open the peritoneal cavity. I have known death in three cases from this cause, in the hands of other surgeons.

Fibroids or Polypi.—If there is a fœtid discharge from a strangulated or sloughing part, I have the vagina or uterine cavity, as the case may be, soaked by frequent injections of a 1-to-5,000 or 1-to-10,000 bichloride solution for a least four hours, so as to prevent infection during the operation, and, for the same reasons as above stated, I avoid if possible the use of a tampon, especially a styptic tampon. In this way I have removed sloughing tumors without even a rise of temperature occurring after the operation.

Vaginismus, Vesico-vaginal and Recto-vaginal Fistula, Lacerated Cervix, etc.—The vagina is washed as usual with the 1-to-5,000 bichloride solution, iodoform is used freely in the vagina and on the vulva, and suppositories of iodoform are used in place of vaginal injections, unless the discharge is sufficient to indicate washing out. Before we used antiseptics, most of these operations could be done without the formation of pus or any marked rise of temperature, but many times the septic infection was troublesome and painful, and now and then a life was lost; but, by following the practice here described, a rise of temperature above 100° F. will be extremely rare.

Lacerated Perinæum.—Even non-believers in the use of antiseptics will admit that operations for lacerated perinæum often caused much pain and swelling, and nearly always the formation of more or less pus, and sometimes abscesses. By adopting the following method, one can operate in many cases without having any pus or even painful swelling. Examine the case with great care, and be sure that there is no disease of the rectum, vagina, uterus, or uterine appendages that may infect the wound of the perinæum during or after the operation, then wash the vagina, rectum, and vulva with a 1-to-3,000 or 1-to-5,000 bichloride solution, and operate under a stream of 1 to 10,000; after the sutures are in position, before twisting them up, dilate the rectum freely to relieve all tension from that source and enable the rectum to be emptied daily without effort on the part of the patient. Sprinkle iodoform freely on the vulva, in the vagina, and over the sutures. Instruct the nurse not to use a catheter if the patient can pass her water without it, and each time the water is passed or the bowels are moved (and they should be made to move, after the first day, every day) to wash out the vagina with a gentle stream of a 1-to-60 solution of carbolic acid (Calvert's No. 1), and the vulva with a 1-to-5,000 bichloride solution, and after each washing to sprinkle the parts freely with iodoform. Keep this up for at least five days, or, better, until the ninth or tenth day, when the sutures are removed. By this plan of treatment opium may not be needed at all, for the iodoform prevents not only swelling, but, in a great measure, pain also. The odor of iodoform can be pretty well disguised by Tonka bean, etc.

Laparotomy.—Here more depends upon securing cleanliness in the surroundings, the clothing, the instruments, the operator's person, hands, etc., than upon the use of antiseptics, for the surface of the peritonæum can not safely be reached by efficient antiseptics, and septic poisoning in these cases means death. I am aware that even in the simplest case antiseptics should not be allowed to take the place of cleanliness. *In surgery I would place cleanliness first, drainage second, rest third, and antiseptics fourth; but perfect cleanliness is very difficult to attain, and still harder to maintain. Recognizing my fallibility, I use antiseptics to make up in a measure for it.* I wash my patient and my hands, therefore, not only with soap and warm water, but with a 1-to-3,000 bichloride solution, my instruments are kept in a 1-to-20 solution of carbolic acid, and my sponges, after a most careful preparation, are squeezed out in a 1-to-5,000 bichloride solution before being used, and they are squeezed very dry and then put into a 1-to-60 solution of carbolic acid, or a 1-to-5,000 bichloride solution. If I cut off a Fallopian tube filled with pus, I touch the stump with either a Paquelin's cautery or some antiseptic. I have not dared to wash out the peritoneal cavity with anything except a very weak solution of carbolic acid; now I would only use warm water when washing was needed, and always dry the cavity well by sponging. After putting in the abdominal stitches, I wash the abdomen with a 1-to-5,000 bichloride solution, sprinkle iodoform freely over the sutures, and cover the wound and the abdomen with a thick layer of borated cotton, kept in place by firm adhesive straps.

The foregoing is sufficient to indicate what can be done in other gynæcological operations not mentioned in detail. If, after an operation on the vagina or the uterine cavity, septic disease sets in, as soon as the symptoms are unmistakable, say when the temperature in the axilla reaches 102° or more, I would use intra-vaginal or intra-uterine douches as indicated.

If a tent or tampon or stitches obstructed free drainage, they should be removed. The method of using intra-uterine douches would bethe same as I advocated in a paper printed in the "New York Medical Journal" of June 23, 1883, on "The Local Use of Antiseptics after Abortion and Labor." Since writing that paper I have made some careful observations on the use of mercuric bichloride in intra-vaginal and intra-uterine douches.

I am satisfied that it is a serious mistake to use a solution of 1 to 2,000, as recommended by some late writers. Even a 1-to-5,000 solution, used twice a day as a vaginal douche after labor or an abortion, will in many cases produce some of the characteristic effects of mercury on the general system within a few days. A close personal observation has made it clear to me how this may occur. After labor, and after some abortions, the capacity of the vagina is relatively large, and, where the perinæum is intact after a vaginal douche while the patient is on her back, from two to eight ounces or more may be retained in the vagina for a time. If it is retained even for a short time, most of the bichloride in solution passes by osmosis directly into the circulation of the patient. Suppose only two ounces of a 1-to-2,000 solution are retained, the patient might get a dose of at least half a grain with each douche, for, besides that in the two ounces, some would be absorbed during the time of giving the douche of a quart or more. If eight ounces are retained, two grains might be absorbed with each douche. Therefore it is important to empty the vagina by having the patient change her position, or even sit up if necessary, although a much weaker solution is used. If a solution of 1 to 2,000 is used, it will cause decided uterine contraction, so that another injection can not be given for several hours afterward without using force to insert the tube. Even the vagina may be somewhat constricted by it. In some cases of septicæmia it is necessary to use a douche every hour to kill the local infection and stop septic absorption, and in such cases I alternately use a 1-to-10,000 mercuric bichloride solution and a 1-to-60 solution of Calvert's carbolic acid No. 1. Mercuric bichloride is slow in dissolving, and when finely powdered may float undissolved for an hour or more, so it is best to have a carefully made solution, to which water can be added to make it of any desired strength. These observations as to the strength of the bichloride solution merely go to confirm what was determined in Germany some time ago.

I have said nothing about the use of antiseptics, except their local use; but, if the germ theory of disease is correct, much may yet be done by using antiseptics internally or hypodermically to stop the development and reproduction of germs in the whole system. Ten years ago I used mercuric bichloride hypodermically in syphilitic cases, and found that I could control the disease rapidly and with great certainty. By using a solution one grain to the ounce, and injecting it into the deep muscles of the back and hip, no abscesses were ever produced, and soreness was all that was complained of. The dose can be regulated with mathematical accuracy. I would not hesitate to try the same treatment in any case of septicæmia, should I fail to check the disease by the local use of antiseptics.

Book Notices.

A Treatise on Chemistry. By H. E. Roscoe, F. R. S., and C. Schorlemmer, F. R. S., Professors of Chemistry in the Victoria University, Owens College, Manchester. Vol. III. The Chemistry of the Hydrocarbons and their Derivatives: or Organic Chemistry. Part II. New York: D. Appleton & Co., 1884. Pp. ix–655. Price, $5.

The present volume of Roscoe and Schorlemmer's comprehensive treatise on chemistry still leaves the subject uncompleted. The fourth volume, which initiated the description of organic chemistry, was taken up with an account of the first three series of hydrocarbons, and now the fifth volume goes on with this account and carries the subject as far as the aromatic compounds. It will be seen that, like a serial story, it breaks off at the most interesting point, for it is just in that department of chemistry which the authors have not yet covered that the most important discoveries are daily made and the most revolutionary changes are effected; and, of course, it is this installment of the work that students of the science have most eagerly looked for. Judging by the thoroughness with which the authors have followed up the latest developments in the chemistry of the hydrocarbons, the coming volume, on the aromatic compounds, will satisfy every reasonable expectation.

Of the installment of the work just issued there is little to be said, save that it is fully up to the standard of its predecessors; it is as encyclopædic in completeness of scope and as accurate in point of detail as any of the volumes previously published. With the volume immediately preceding, it forms a treatise on organic chemistry as exhaustive as can be found in the language. The section upon the carbohydrates alone—one of the most interesting in the work to medical men—covers over a hundred pages, and contains, in addition to merely chemical details, short digressions on the subjects of sugar-manufacture, saccharimetry, etc. Many valuable facts, including some of quite recent discovery, are presented, and the whole forms a complete summary of what we know upon this important subject.

Like the preceding volumes, this is well illustrated and carefully indexed—the latter an item of very considerable importance in a work of this sort. We regret to find that, in spite of careful printing, a number of typographical errors have escaped correction. A few of these affect the formulæ, and are thus productive of confusion; most of them, however, are merely mistakes in spelling, the correction of which is obvious.

BOOKS AND PAMPHLETS RECEIVED.

Louis Pasteur; his Life and Labors. By his Son-in-law. Translated from the French by Lady Claud Hamilton. New York: D. Appleton & Co., 1885. Pp. xlii–300.

The Adventures of Timias Terrystone. By Oliver Bell Bunce. New York: D. Appleton & Co., 1885. Pp. v–305. [Price, 50c.]

Praktische Beiträge zur Kinderheilkunde. III Heft. Die Verdauungskrankheiten der Kinder. Von Dr. Adolf Baginsky, Privatdocent der Kinderheilkunde an der Universität Berlin. Mit 3 Tafeln mikroscopischer Abbildungen. Tübingen: H. Laupp, 1884. Pp. 232. [Price, 6M.]

President's Address. By Richard McSherry, M. D. [Reprinted from the "Transactions of the Medical and Chirurgical Faculty of Maryland."]

Annual Announcement of the Medical Department of Niagara University. Session of 1884–'85.

Correspondence.

LETTER FROM WASHINGTON.

The Prospect in regard to Cholera, and the Preparations to prevent an Epidemic in this Country.—Medical Appointments.

WASHINGTON, *April 12, 1885.*

THE great and widespread belief in the certainty of the coming of cholera this summer is one of those curious examples of how easily, and on what a slender foundation, a panic may be bred. Some of the liveliest shriekers in the cause might well be reminded of the fable of the boy who cried "Wolf!" so often that the shepherds at last paid no attention to him, so that, when the wolf finally came, the flock was ruthlessly torn, because the boy's outcry was deemed only another of his jokes. Nobody here overlooks the fact that there was a violent and disastrous outbreak of cholera in southern Europe last summer; but it is also borne in mind that it was suppressed after a time, and that, up to this date, it has not reappeared, except perhaps in a small village in Valencia, Spain. It is absolutely certain that, before cholera can prevail here, it must have made its appearance in some port or place whence emigrants depart for the United States. There has been no reappearance of the disease in its haunts of last year, and, so far from there being additional ground for alarm, there should be a much greater feeling of security. We may look for cholera, if at all, through Spanish channels, and our outpost of observation in this hemisphere would naturally be at Havana. But, while there seems no real occasion for alarm at this time, there is every reason for extreme vigilance on the part of the General Government as well as municipalities, and it is gratifying to see that all concerned are aware that "eternal vigilance is the price of" safety, as well as of "liberty"; and, with that feeling in the breasts of those responsible for the administration of affairs, it is surely unnecessary and cruel to try to breed panic among the people simply because certain of our agencies do not have the spending of the money in preference to others. If we look into the matter, we find that the Secretary of State has instructed all our consuls in Europe and South America to immediately notify the Department, by cable, of the appearance of cholera in any place within their respective consular districts. This is certainly the speediest means of notification, and the information thus obtained will at once be given by the Treasury Department to the Associated Press. The medical inspectors attached to our consulates have been ordered to be reappointed, for the inspection of emigrants and their baggage, and ships' crews and cargoes, and in this country the national quarantines are soon to be put in working order for the season. Then, should the cholera suddenly appear anywhere, it is only necessary for the Governor of any State to make application for such additional funds as he may need. How absurd, then, is the cry that "the General Government is doing nothing," and how absolutely at variance with the facts! It is not necessary, in this enlightened age, to create a panic in order to stimulate efforts for the prevention of disease.

The rag men are still at work trying to get their rags into this country without sanitary supervision, but thus far without success. Dr. Horatio R. Bigelow, of this city, now in Berlin, has been appointed an inspector of rags, to see that the Treasury Department regulations are complied with in all shipments of rags from that city to the United States. The appointment was made on the recommendation of the Consul-General.

The methods pursued by some otherwise very worthy gentlemen to obtain office are sometimes amusing. One medical gentleman, who was doubtless unable to leave his practice, sent his wife here to manage his canvass for a medical position now held in one of the public services by a prominent medical officer. The lady talked freely of the "incompetence and ignorance" of the officer whose place her husband wanted, but the principles of civil-service reform seem too deeply impressed upon the present administration for immediate compliance with the lady's request without further investigation, and she has left the city a wiser if not a sadder woman.

Dr. Thomas I. Chew has been appointed physician to the city almshouse, *vice* Dr. W. P. C. Hazen, resigned. Dr. James F. Hartigan, lecturer on diseases of children in the University of Georgetown, has gone to Europe for the summer. Dr. S. B. Fisher, one of the oldest of our practitioners, died last week. He had had paralysis for some months prior to his death.

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NEW YORK, SATURDAY, APRIL 18, 1885.

THE LONDON DEBATE ON CHOLERA.

Judging from the accounts given in our London contemporaries, the discussion which was begun at the meeting of the Royal Medical and Chirurgical Society, held on the 24th of March, proved to be crisp and searching. The proceedings were opened with a paper by the president, Dr. George Johnson, but the paper seems to have touched only incidentally on the points that just now are uppermost in the minds of those who are engaged in the study of the ætiology of the disease — those, namely, that relate to the connection between cholera and Koch's comma bacillus. Dr. Klein followed the president, and argued against the ætiological significance of the bacillus. Although the infective agency, he said, must be a living organism, since it possessed the power of self-multiplication, yet it was not necessarily connected with the dejecta of cholera patients. The fact that water contaminated with choleraic dejecta had often been shown to have conveyed the disease did not prove that it was the dejecta themselves that acted as the morbific agent; there must be something extraneous added to them. If we assumed that the infective agent was a bacterium, we must conclude that the disease was directly contagious, a conclusion that was disproved by overwhelming evidence. Such being the case, any bacterium present in the evacuations, however peculiar it might be, could not be connected with the infective agent. As a matter of fact, there was nothing very peculiar in the cultivation-growth of either the comma bacillus or the other organisms found in the intestines in typical cases of cholera. Acids did not kill them, although it was true that they would not grow in acids. In the experiments performed upon animals by Nicati and Rietsch, by Koch, and by others, some of the fatal results had been due, not to cholera as the sequence of injections of choleraic mucus or of cultivations of comma bacilli into the intestines, but either to the operation or to septic poisoning. Although the bacilli of cholera nostras and those of other forms of diarrhœal disease differed in their mode of growth from Koch's cholera bacilli, those that Lewis had found in the mouth in healthy persons were identical with Koch's comma bacilli in most respects.

Mr. Watson Cheyne was the next speaker, and it must be said that he met Dr. Klein's points very successfully. In regard to the close resemblance of the comma bacillus to some other micro-organisms, it was unwarrantable to assume that Koch had ever professed to be able to distinguish the former by the microscopical appearances alone; and it was equally unfair to say that Koch had ever inferred from its peculiar mode of growth that it must of necessity be the pathogenetic germ of cholera. Dr. Klein differed with Koch as to the number of the comma bacilli present in the intestines in cases of cholera, and this discrepancy, the speaker thought, might depend partly on the way in which the estimate was made, whether with the microscope alone or by means of cultivation, and partly upon the possibility that Dr. Klein had mistaken some of the rapidly growing bacilli, in which condition they were straight, for other organisms, an error that had happened within his own observation. As to Dr. Klein's conclusion that the bacilli did not effect a lodgment in the tissues, but were found only in the contents of the digestive canal, that might be owing to defective staining processes. But the main question was as to whether these bacilli were found in other conditions than Asiatic cholera. It was certain that they had been found in every genuine case of Asiatic cholera in which a competent search had been made for them. If, therefore, they had no essential connection with the cholera virus, they must be very widely diffused throughout the world, and very readily found, for it had made no difference whether the cases were examined in India, Egypt, France, Italy, or Spain. Nevertheless, Koch and others, in order to test the question of their wide diffusion, had examined vast numbers of specimens of saliva, dysenteric dejecta, putrefying matters, and the like, without ever finding the bacillus. Dr. Klein's statement that he and Dr. Gibbes had found the comma bacilli in dysenteric evacuations could not be accepted, unless they could bring some other proof than that of microscopical observation that the organisms they found were really the same as Koch's comma bacilli. It had happened to him to find large numbers of what, on microscopical examination, seemed to be comma bacilli in two cases of cholera nostras, but the cultivation tests had shown that they were distinct organisms. As to the bacilli found in the mouth. Koch and a number of other observers had all failed in their attempts to cultivate them.

At this point Dr. Klein virtually conceded that the oral organisms were not the same as the comma bacilli, and Mr. Cheyne continued a forcible line of argument against the assumption that the comma bacillus had ever been found apart from Asiatic cholera. He maintained also that the fact that the ingestion of the bacilli did not invariably produce cholera could not be said to prove that they were not the infective agent; like observations might be cited in regard to almost any infective disease—it was necessary that the subject should be in a receptive condition. Finally, in regard to the experiments on animals, he had had two cases in which both the symptoms and the post-mortem appearances were those of cholera, and he was satisfied that the deaths had not been due to septicæmia.

The discussion was resumed at the next meeting, held on the 31st of March, and Dr. Heneage Gibbes, who was the first speaker, agreed fully with Dr. Klein. Mr. Cheyne's statement that the comma bacilli were straight in the early period of their development was disproved, he said, by cultivation experiments, and there were no straight forms in a pure cultivation. Nor could it be admitted that failures to find the comma bacilli in the tissues were due to defects in the staining methods employed, for, when they were present, they were readily stained with ordinary reagents. Koch's statement that the large intestine was the seat of a natural cultivation experiment, and his other statement that the number of the comma bacilli was in direct proportion to the severity of the case, had not been borne out by his (Dr. Gibbes's) investigations and those of Dr. Klein; in the great majority of typical cases, section from the lower part of the ileum, hardened after Koch's method and treated with every possible staining agent and combination of stains, the bacilli were wholly wanting.

Mr. C. Macnamara cited the history of outbreaks of cholera, together with the experience of all other competent observers than Dr. Klein, to show that the infectious agent was contained in the dejecta, and he corroborated Mr. Cheyne's statement that twenty years ago the properties of the contagium were discovered to be extremely like those now recognized as belonging to the comma bacillus. Other speakers brought forward facts to prove the distinctive character of the bacillus. It must be said, we think, that Koch's doctrine was not at all shaken in the debate.

GYNÆCOLOGISTS AND GENERAL PRACTITIONERS.

Many of us are accustomed to the belief that the English are the only really conservative people under the sun, and that their medical men represent their most conservative class—a theory that is disproved by their brilliant record as advanced thinkers and observers. From our own preconceived opinions, as well as from a perusal of Professor Playfair's letter to the "American Journal of Obstetrics," we had come to the conclusion that specialists, and especially gynæcologists, had a hard time in London, that they led a precarious existence as objects of suspicion to the general surgeon, by whom they were regarded as an hermaphrodite brood, only tolerated because a few of them had made famous records in ovariotomy. But, from the moderate tone of recent society addresses, and above all the fact that a most promising British Gynæcological Society has just been established, we should infer that there now existed rather less of this feeling in England than in America. There is a growing, yes, a full-fledged jealousy on the part of many of our general practitioners toward all who devote themselves exclusively to the treatment of diseases of women. If this unreasonable prejudice were only nursed in secret, it would still be unfortunate, but, when it finds expression, as it often does, in open disparagement of a specialty which is at once the pride and the honor of American medicine, we consider it not only a matter for regret, but an occasion for remonstrance.

What is the cause of this antagonism between general practitioners and gynæcologists? Other specialists come in for a certain share of disapprobation, it is true, but it is upon the class we have mentioned that the phials of wrath are particularly emptied. It is asserted that gynæcologists are narrow-minded, arrogant, and exclusive; that they "run in cliques," having their own societies, the membership of which is limited; that they view the world, as it were, through a speculum; that they sew up the cervix and remove ovaries without occasion; that they exaggerate minor ailments; that each one of them has his own particular hobby, and so on. On the other hand, the man of many aims is credited with despising the narrow boundaries of the pelvis, with the contents of which he glories in being unacquainted. This gives some idea of the present sstate of feeling among us, and we must say that it does little credit to the profession. Who, we would ask, are our prominent gynæcologists—those in New York, for example? Are they not men who have spent years in general practice before gradually contracting their work within the limits of a specialty? The notion that they are necessarily ignorant of general medicine is controverted by the fact that no young man who aspires to follow their example is so foolish as to believe that he can attain to eminence as a specialist in diseases of women until he has spent many years in general practice. Of those who start with the contrary idea, few are ever heard of again.

Next, as to the arrogance and superior pretensions of this class of the profession, it is enough to add that those who are most skillful are, according to our observation, most humble and most distrustful of themselves. Their enthusiasm over hobbies may render them unacceptable to those who have no sympathy with their ideas, but the earnestness and sincerity of purpose of American gynæcology will always cover the multitude of its sins. As regards the tendency of specialists to refer to the pelvic organs many symptoms which could undoubtedly be explained by reference to the general condition of the system, we admit that here the general practitioner can find his strongest grounds for criticism; but he should not forget that, on the other hand, patients are frequently subjected to long courses of general treatment for ailments which are palpably of uterine origin. It is "six of one and half a dozen of the other." The subject of ovarian pathology is one that always serves as a red rag to anti-specialists. They admit that there are such organs as ovaries, but rarely that they require active treatment unless enlarged to the size of an actual tumor. In their eyes, their removal is not only unjustifiable, but the crying sin of modern surgery. Refusing to examine into the subject themselves, they credit their professional brethren with routinism, because the latter have made a study of the matter, and offer a means of relief. This is as illogical as it would be for a gynæcologist to open every enlarged abdomen off-hand, simply because it was supposed to contain a tumor.

It is time that a compromise should be effected between these antagonistic elements. Unquestionably the specialist does need a good deal of advice from his more conservative *confrère*, and would do well to adhere to the latter's broader views of disease, while the general practitioner should at least credit the gynæcologist with an honest even if mistaken zeal in his limited field.

MINOR PARAGRAPHS.

THE "MEDICAL NEWS" OF JAPAN.

Of all the exchanges that come to us, none perhaps gives greater evidence of the progress and the far-reaching influence of modern scientific medicine than that strange and unintelligible-looking little magazine, the "Medical News," published weekly in Tokio, Japan. The issue before us, dated November 15, 1884, consists of thirty-two octavo pages, neatly printed in Japanese characters and bound in a plain paper cover. But a page and a half is devoted to advertisements. Some idea of the scope and style of the paper may be gained from its table of contents, which, being translated, reads as follows: Report of the Transactions of the last Meeting of the Society for Diseases of Children; eight short miscellaneous articles; Notice from the Board of Health to the Department of the Interior; Abstracts on the Practice of Medicine; On Surgery; New Instruments; On Medical Jurisprudence; On Materia Medica; Medical College Announcements. The paper read before the Society for Pædiatrics is on the subject of intestinal catarrh in children, which the writer speaks of as arising from insufficient nutrition, unwholesome milk, acid foods, unripe fruits, sugar, candies, preserves, etc., and as being particularly frequent at the time of the first dentition. Full directions are given as to treatment, and several prescriptions are recommended. In the department of medicine are articles on the treatment of gonorrhœa, blennorrhœa in the male [*sic*], etc. In surgery, cases of disease of the scalp, ranula, etc., are given. Then comes a description of a new instrument, made by a Japanese student in Germany, followed by a collection of abstracts on materia medica. The advertisements consist of the announcement of three new Japanese books; one a new edition of a work on natural science, another a new medical work (translated), and a third entitled "Famous Medical Men of the Present Reign." Then comes the regular notice of the "Medical News" itself, and finally a half-page in which are set forth the virtues of a remedy for pulmonary consumption.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

At the first meeting of this new society, the president, Dr. Meadows, delivered an able address upon its foundation and objects, which is published in full in a late number of the "British Medical Journal." In referring to the aims of this as distinguished from the Obstetrical Society, the speaker remarked that the divorce between the two was a necessary one, yet did not imply any antagonism; the growth of gynæcology had been such that it was impossible to do justice to the subject in a body devoted to obstetrics and the diseases of women and children. He stated that the society was open to all qualified medical practitioners, women not being excluded. Dr. Meadows makes a strong plea in favor of abdominal surgery being relegated entirely to the gynæcologists, although his argument may not be regarded as a particularly sound one that "if the gynæcological physician possess in an especial manner, as the result of his special experience, the faculty of diagnosis in abdominal cases, if he be an operator at all he ought to be allowed to operate in cases of this sort." He sketches a number of important questions which should be thoroughly discussed by the society, such as Mr. Tait's ideas on menstruation, the surgical treatment of uterine fibroids, antisepsis in peritoneal surgery, and the therapeutics of pelvic disease. We feel sure, with him, that the society will have a brilliant future; this can not fail to be the case if his sound advice is followed.

NEWS ITEMS, ETC.

The Late Dr. James L. Little.—At a special meeting of the Medical Board of St. Luke's Hospital, held April 8, 1885, the following preamble and resolutions were unanimously adopted:

Whereas it has pleased Divine Providence to remove by death our beloved associate, Dr. James Laurence Little, who was for eighteen years one of the most active members of our staff; therefore be it

Resolved, That in his death we mourn the loss of a *friend* whose personal worth and rare kindliness of feeling have endeared him to his associates in this board, as well as of a surgeon who has won deserved distinction by enthusiastic devotion to his profession and successful achievements in surgery.

Resolved, That we extend to his family our heartfelt sympathy.

On behalf of the Medical Board,
Robert Abbe, M. D.,
Attending Surgeon,
A. Brayton Ball, M. D.,
Attending Physician.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 14, 1885:

DISEASES.	Week ending Apr. 7.		Week ending Apr. 14.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever..............	5	1	7	3
Scarlet fever...............	93	12	79	15
Cerebro-spinal meningitis....	4	5	8	4
Measles....................	214	22	183	17
Diphtheria..................	64	35	67	23

The American Neurological Association will hold its eleventh annual meeting in New York on Wednesday, Thursday, and Friday, June 17th, 18th, and 19th.

The Association of American Medical Editors will hold its annual meeting in New Orleans on Monday, the 27th inst., at eight o'clock P. M., in the Medical College Building. The annual address will be delivered by the president, Dr. Henry O. Marcy, of Boston, on "The Legislative Establishment of Medical Examining Boards in America," and papers are expected to be read by Dr. F. E. Daniel, of Austin, Texas; Dr. F. S. Billings, of Boston; Dr. R. J. Dunglison, of Philadelphia; Dr. J. V. Shoemaker, of Philadelphia; Dr. Leartus Connor, of Detroit, and others. All members of the profession are cordially iinvted to be present and participate in the meeting, especially journalists and authors.

"Professor Hyrtl's Jubilee," says the "British Medical Journal," "has been celebrated at Vienna, and several graceful addresses were received, including one from the *Verein deutscher Aerzte zu Prag.* Besides the celebrated work on Anatomy, Hyrtl has occupied himself of late years with philological work. In 1879 he published (at Vienna) *Das Arabische und Hebräische in der Medicin*, aud, in 1880, the *Onomatologia Anatomica.* Professor Hyrtl has taught anatomy to two generations of medical men, and certainly deserves to enjoy his *otium cum dignitate* so well earned."

The Charity Organization Society held its annual meeting last Tuesday evening, the president, Dr. S. O. Van der Poel, in the chair.

The Small-pox in Montreal is reported to be increasing in prevalence, although it has not yet reached the proportions of an epidemic.

The New York Lying-in Asylum.—The annual meeting of the managers was held on Wednesday, the 15th inst., in the new building in Second Avenue. It ought only to be known that the cost of the new structure has somewhat crippled the financial resources of this most deserving charity to insure the immediate receipt of sufficient contributions to make the institution self-supporting.

The "American Journal of Neurology and Psychiatry" announces in its April number, which completes the third volume, that its publication is to be discontinued. The reason given is that a majority of the editorial staff have engaged in another undertaking, the prosecution of which will not leave them time to conduct the "Journal" hereafter.

The Death of Dr. Samuel Cabot, of Boston, a well-known surgeon, is announced as having taken place on Monday, the 13th inst., in the seventieth year of his age. He was a graduate of the Harvard Medical School, of the class of 1839, and one of the surgeons to the Massachusetts General Hospital.

The Death of Dr. Robert W. Hooper, of Boston, took place in Cambridge on Monday, the 13th inst., in the seventy-fifth year of his age. He was a graduate of the Harvard Medical School, of the class of 1836.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 5, 1885, to April 11, 1885:*

Biart, Victor, Captain and Assistant Surgeon. Leave of absence extended six months on surgeon's certificate of disability. S. O. 77, A. G. O., April 4, 1885.

Cowdrey, Stevens G., Captain and Assistant Surgeon. From Department of the East to Department of the Missouri. S. O. 77, A. G. O., April 4, 1885.

De Loffre, Augustus A., Captain and Assistant Surgeon. From Department of the East to Department of Dakota. S. O. 77, A. G. O., April 4, 1885.

Crampton, Louis W., Captain and Assistant Surgeon. From Department of the East to Department of the Platte. S. O. 77, A. G. O., April 4, 1885.

Torney, George H., Captain and Assistant Surgeon. From Department of the Missouri to Department of the East. S. O. 77, A. G. O., April 4, 1885.

Arthur, William H., First Lieutenant and Assistant Surgeon. From Department of the Platte to Department of the East. S. O. 77, A. G. O., April 4, 1885.

Wyeth, M. C., First Lieutenant and Assistant Surgeon. From Department of Dakota to Department of the East. S. O. 77, A. G. O., April 4, 1885.

Carter, E. C., First Lieutenant and Assistant Surgeon. Granted one month's leave, with permission to apply for one month's extension, to take effect upon the arrival of another medical officer at his post. S. O. 30, Department of Arizona, March 23, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending April 11, 1885.*

Bailhache, P. H., Surgeon. Chairman of board for physical examination of candidates for appointment as assistant engineers, Revenue-Marine Service. April 6, 1885.

Vansant, John, Surgeon. Chairman of board for physical examination of officers of the Revenue-Marine Service. April 11, 1885.

Purviance, George, Surgeon. Granted leave of absence for one week. April 6, 1885.

Stoner, G. W., Surgeon. Member of board for physical examination of candidates for appointment as assistant engineers, Revenue-Marine Service. April 9, 1885.

Godfrey, John, Surgeon. To represent Service at annual meeting of American Medical Association. April 11, 1885.

Goldsborough, C. B., Passed Assistant Surgeon. To proceed to Pascagoula, Miss., as inspector. April 8, 1885.

Carter, H. R., Passed Assistant Surgeon. Member of board for physical examination of officers of the Revenue-Marine Service. April 11, 1885.

Society Meetings for the Coming Week:

Monday, *April 20th:* New York County Medical Association; Medico-Chirurgical Society of German Physicians, New York; Roman Medical Society (private), New York; Hartford, Conn., City Medical Association.

Tuesday, *April 21st:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings, N. Y.; Ogdensburg, N. Y., Medical Association; Medical Society of Passaic County, N. J.

Wednesday, *April 22d:* New York Pathological Society; American Microscopical Society of the City of New York.

Thursday, *April 23d:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; New York Orthopædic Society; Hartford County, Conn., Medical Society; Roxbury, Mass., Society for Medical Improvement (private).

Friday, *April 24th:* Yorkville Medical Association (private); New York Clinical Society (private); New York Society of German Physicians.

Saturday, *April 25th:* New York Medical and Surgical Society (private); Worcester, Mass., North District Medical Society (annual—Fitchburg).

OBITUARY NOTES.

Dr. Edward T. Ely.—As the result of a long and trying illness, Dr. Ely died on Sunday, the 12th inst., in the thirty-fifth year of his age. It is but two or three years since he was suddenly stricken down, when apparently in perfect health, with a pulmonary hæmorrhage, which was at once followed by such evident signs of extensive lung disease as to lead his friends to fear a speedy fatal termination. From that attack he rallied slowly, however, and became able to avail himself of a change of climate. He spent some months in Colorado, and returned to his former home, in Rochester, with his pulmonary trouble in a state of quiescence. A few months ago a complication appeared in the shape, as we understand, of a pelvic abscess, and the additional strain thus put upon his strength has at last terminated in his death.

Edward Talbot Ely, M. D., was born in Rochester, where his father was a distinguished practitioner of medicine. He received his academical education at the university in that city, and took his medical degree at the College of Physicians and Surgeons, in New York, in 1874. After serving on the house staff of Charity Hospital and the Presbyterian Hospital, he turned his attention to diseases of the eye and ear, although, so long as he was able to work, he never gave up general practice. He became associated in practice with Dr. D. B. St. John Roosa, and soon made his mark among the younger practitioners of New York. He was the author of an excellent paper on tobacco amblyopia, published in this journal, and among his more striking achievements was the devising of an ingenious operation for the deformity known as "flap-ear," the efficiency of which he demonstrated in actual practice. Up to the time of his being disabled, he was one of the most active members of the New York Clinical Society.

Dr. Ely was highly esteemed by his colleagues, and his patients were warmly attached to him. Under a quiet and somewhat sedate demeanor he carried an inexhaustible fund of humor, which even the suffering incident to his disease could not quench. It is not too much to say that, in his decease, the profession has lost a most promising worker, and it is within the personal knowledge of the present writer that rarely has there been witnessed such unfeigned grief as that with which Dr. Ely's friends learned of his untimely encounter with the great destroyer.

Proceedings of Societies.

NEW YORK ACADEMY OF MEDICINE.

Meeting of April 2, 1885.

The President, Dr. A. Jacobi, in the Chair.

Newspaper Advertising.—The President referred to the evil done the public and the medical profession by sensational reports of striking operations or wonderful cures which now and then appeared in the public prints. Special circumstances sometimes justified a physician in giving expression to views regarding matters which concerned the public health, the value of which the public could readily appreciate; but what could and must be avoided was the appearance in print of reports of striking or rare cases, which could not possibly be of interest to the public at large, while they harmed the professional man, who was thus held up to public view, to be talked of in the morning, to be smiled over in the afternoon, to be forgotten with the new day.

Antipyrine and its Effects.—Dr. William H. Draper read a paper with this title. [See page 429.]

Dr. Leonard Weber had employed antipyrine in fifteen cases, including cases of pneumonia, bronchitis, scarlet fever, etc. In not a single one of the fifteen cases had he been disappointed in his desire to reduce the temperature. The first case was one of double pneumonia in a child, of severe type; the drug reduced the temperature from two to three degrees when administered either by the mouth or by the rectum. Resolution began to take place at the close of the fourth day of the disease. In another case he gave smaller doses more frequently repeated, and had no difficulty in keeping the temperature down to 101° or 102° F. He noticed a little nausea when the drug was administered in this manner. He thought it well to begin with relatively small doses, say seven grains, by the mouth or rectum in children, and fifteen grains in adults, before proceeding to give larger doses, as was at first proposed. The remedy acted quickly, and we should know within a short time after the administration of the first dose how the patient would bear it, and thus avoid producing too great and rapid lowering of the temperature.

Dr. H. J. Boldt had given as much as a drachm at a dose, and had found that in this large quantity antipyrine caused increased frequency with diminished strength of the pulse, prostration, and symptoms seen in carbolic-acid poisoning. The effects of the drug were noticeable within from three quarters of an hour to an hour, and continued only three or four hours. He usually began with from twenty to thirty grains, and increased the dose according to the indications. In two cases of puerperal septicæmia the drug had had no effect. A negative result was also observed in another case.

Dr. G. L. Peabody said, with regard to the variability in the effect of the drug, that doubtless it was sometimes due to adulteration. When he first began its use it never failed to reduce the temperature. In more recent cases it had failed in a number of instances, and this he thought was due to adulteration. He would emphasize the fact that by employing this remedy we at all events did our patients no harm; even though we failed to reduce the temperature, we did not diminish the force of the heart's action. It was also a matter of some interest to know that if the drug occasionally produced vomiting it could be administered subcutaneously without any injurious local effect. Dr. Peabody had employed antipyrine in almost all febrile affections, and only lately had he failed to reduce the temperature. He mentioned the case of a fleshy girl, suffering from typhoid fever, in whom the cold bath failed entirely to reduce the internal temperature, while antipyrine caused the vaginal temperature to fall even below normal.

Dr. Malcolm McLean had succeeded in reducing the temperature in a case of chronic pyæmia following puerperal fever, after all other antipyretic remedies had completely failed.

The discussion was closed by Dr. Draper, who said that in antipyrine we had a very efficient means of treating a symptom.

A Change in the Constitution.—The resolutions offered by Dr. V. P. Gibney at the last meeting of the society were then acted upon and adopted.

An Original Operation for Ruptured Perinæum.—Dr. A. C. Post then read a brief paper on this subject, and said that the operation had not been performed a sufficient number of times to entitle it to be regarded as established, but in the three cases in which he had performed it the result had been so satisfactory as to lead him to recommend it to the profession as worthy of trial. It was simpler in execution than the one ordinarily performed, and he thought it secured a more solid perineal body; it also had the advantage that there was no loss of substance in its performance, and consequently it might be easily repeated if for any reason the first operation should fail. An incision was made on each side of the vagina to the depth of half an inch or more. The incisions met in front in a manner to divide the parts into an upper and a lower segment. The upper segments were turned up, and formed the floor of the vagina, and were secured in position by a row of catgut sutures passed, not through the skin, but through the subcutaneous cellular tissue so as to turn the edges of the skin upward to form a ridge on the floor of the vagina. A second row of sutures, of silver wire, was passed from either side through the deepest part of the incisions where the upper and the lower segments met. The ends of these sutures were passed through glass beads and perforated shot, and after the flaps were brought into close contact the shot were compressed. The inferior edges were united by fine sutures, and an iodoform dressing was then applied. The integument on the inner side of the thighs should be protected from pressure by the shot and beads. The patient should be allowed to urinate without the use of the catheter, and the parts be washed with a solution of mercuric bichloride after urination. The sutures might be removed at the end of ten days or a fortnight.

PHILADELPHIA CLINICAL SOCIETY.

Meeting of March 27, 1885.

The President, Dr. Edward E. Montgomery, in the Chair;
Mary Willits, M. D., Reporting Secretary.

Laryngeal Diphtheria; Tracheotomy; Recovery.—Dr. Edward R. Stone reported the case of a male child, twenty-two months old, that he first saw on the second day of the disease, when it had moderate fever, with malaise and enlargement of the cervical glands, and the fauces, uvula, and tonsils were covered with grayish-white membrane. On the evening of the third day the voice became husky, and on the fourth day symptoms of laryngeal stenosis were rapidly developed, with incipient cyanosis and stupor. As an emetic did not give relief, tracheotomy was performed in the afternoon by the president. A large Trousseau-tube was inserted, and its opening was covered with gauze. Except for slight fever for three days, the patient progressed steadily to recovery. The tube was removed on the fourteenth day, and the sinus closed rapidly. Full doses of corrosive sublimate (a twentieth of a grain) were given, together with tincture of chloride of iron and chlorate of potassium every two hours, five grains of quinine, by suppository, daily, and large amounts of whisky (four fluidounces in twenty-four hours) in milk. After the tracheotomy the temperature of the room was kept at 80° F., and the air was kept moistened by the almost constant use of carbolic acid and lime-water with steam atomizers. Insufflations of sulphur were frequently made to the throat. On the fifth day the tube was replaced by a smaller one, which allowed air to pass around it. At each daily dressing the opening was closed with the finger, to force the patient to draw in air through the larynx.

Intestinal Obstruction.—Dr. Stone reported this case also. The obstruction was probably due, he thought, to intussusception. A female child, two years and eight months old, after having had diarrhœa for three or four days, was suddenly attacked with pain in the abdomen, with the passage of bloody mucus, followed by complete cessation of the alvine evacuations and frequent vomiting. On the fourth day the face was pinched and anxious, the pulse small and rapid, and the tongue dry and red. The child lay on its back with its legs flexed, and showed no disposition to move. The abdomen was decidedly prominent, tender, tense, and tympanitic. The swelling was general, but most prominent at the umbilicus; no dullness or other sign of tumor could be detected; and nothing abnormal could be felt in the rectum. There was frequent vomiting of a brown fluid having a fæcal odor. The case was diagnosticated as one of intestinal obstruction, probably with intussusception of the ileocæcal variety, and resulting peritonitis. Full doses of opium were given, and careful and systematic efforts were made to relieve the difficulty with injections of warm water. These were unavailing, and the child died on the eighth day, of exhaustion, without having had a passage from the bowels. Among the points of interest connected with such cases, Dr. Stone mentioned the importance of early laparotomy after a fair trial of injections.

Dr. W. O'Hara said that the case of laryngeal diphtheria seemed to have been cured by tracheotomy rather than by the bichloride. The chlorides had always been used in diphtheria; was it the chlorine in the bichloride that did the good? There hardly seemed to be enough of it to destroy bacteria. It was hard to tell what the indications for tracheotomy really were. He alluded to a case in which a consultant said that the time had passed for the operation to be of service, although great dyspnœa and recession of the epigastrium—the positive symptoms laid down as calling for the operation—were present. Instead, he suggested the use of cold compresses, to relieve the child, if possible, but thought it would die within four hours. As soon as the first compress was applied, the child gasped like a new-born child, and rhythmical respiration was kept up by repetitions of the application; the child finally recovered entirely. If we accepted Dr. Wood's and Dr. Formad's experimental evidence and their conclusions in regard to diphtheria, it seemed as if the local application of the bichloride ought to destroy the bacteria.

Dr. W. W. Keen related the history of a case that had lately occurred—one of well-marked diphtheria of the larynx—in which tracheotomy had proved successful. In the after-treatment, the air of the room was kept moist by means of lime-water spray from an atomizer—a method that he thought preferable to that of slaking lime in the room, for the latter gave off little else than the vapor of water. Tracheotomy was an operation that did not endanger life, and it should be resorted to early, before pulmonary lesions had advanced to such an extent as to rob it of its power to save life.

In regard to the case of intestinal obstruction, Dr. Keen said that Hegar's method seemed to be the best for giving copious injections; it consisted in using an India-rubber tube, eighteen inches or two feet in length, having an ordinary rectal nozzle at one end and a glass funnel at the other, which allowed from four to six quarts of water to be injected slowly and painlessly in an adult. A fountain syringe might be used, the bag being hung about two feet above the patient. As a rule, no anæsthetic should be used, especially in children. The first indications of pain should be watched for; otherwise too much water might be injected, and the peritoneal coat of the intestine ruptured. In the case reported, if Dr. Stone's rules could have been carried out, laparotomy would have been performed. Experience with this operation would indicate that it involved little additional danger, and with it there was the possibility of a cure. In a recent case, seen in consultation with Dr. D. M. Barr, in which the vomiting indicated obstruction, three quarts of water were injected while the patient was under the influence of an anæsthetic. The patient was so hyperæsthetic that anæsthesia had to be induced. The entire injection was retained, and the next day another equally large was given, which brought away a great amount of fæcal matter.

Dr. O'Hara could not see that the first injection produced any effect, and thought that it must have been absorbed.

Dr. Keen considered that the first copious injection probably moistened the fæcal matter, as it was not scybalous when passed, and, since the obstruction had existed for two weeks, it would have been so unless it had been moistened. In some cases the course of the intestine could be followed if the large intestine could be mapped out by the change in the percussion note.

Dr. O'Hara called attention to a case of fæcal accumulation, which had been going on for some time, seen by him and Dr. Keen together over ten years ago.

Dr. Keen remembered the case. The patient was a child six or seven years old. There was a rigid mass in the abdomen, which might have been mistaken for muscular contraction, had it not been for its oblique direction. A large quantity of water was injected with a Davidson's syringe, and in a little while the child passed an immense quantity of fæcal matter and was relieved. The advantages of Hegar's method over the use of Davidson's syringe were that no long tube needed to be inserted into the bowel; the flow was continuous, not spasmodic; and a greater quantity could be injected. The height of the column of water should not exceed two feet, as that exerted a pressure of one pound to each square inch of the intestinal surface.

The President said that, about a year ago, he had presented a report of twelve cases of tracheotomy to the society, and, at the January meeting of this year, he had presented a patient who had been operated upon and had recovered. A large number of the operations were for membranous croup. In the first ten cases the operation was a last resort, and all the patients died—one of them lived until the ninth day, and then died of cardiac paralysis. The shortest period of life after the operation was thirty-six hours. One patient lived seventy-two hours after being operated upon, and at the autopsy the upper half of each lung was found collapsed. Free secretion had been established, but the child was too feeble to throw it off, and might be said to have been drowned in its own secretions. He now, when called to a case in which the operation would most probably be necessary, spoke to the parents at once in regard to it, so that they might be prepared, and valuable time not be lost when the case demanded the operation. Out of four patients operated upon since the ten, three had recovered. Three of the four were cases of diphtheritic croup. All were treated with the bichloride. Two of the cases, both diphtheritic, were seen with

Dr. R. S. Barton. One of them was the case that proved fatal, the operation having been performed largely because the parents were strongly in favor of it, having seen its success with the other child. The operation should be performed early, even though by so doing we might sometimes operate upon those who would recover without it. So soon as remedies seemed ineffectual to relieve the dyspnœa, we should operate. In diphtheritic croup the operation was demanded as soon as there was recession of the epigastrium. The use of chloroform as an anæsthetic caused less irritation and spasm of the larynx than that of ether. Very little chloroform was needed, as the dyspnœa was generally great. First lifting up a fold of skin, running across the trachea, and transfixing it, we could make the incision through it and the superficial fascia without much hæmorrhage. Then we should tear through the other parts until the trachea was reached. The incision should be made at about the middle of the neck, the head being well thrown back.

Dr. Stone said that the fact of some patients recovering without the operation of tracheotomy should not make any difference as to its performance, but, to be successful, it must be done early. Gaining the consent of the parents often depended upon the manner in which the doctor put the question to them; if he only half believed in the operation, it was hardly likely that he could gain their consent.

Dr. Keen's criticism in regard to the performance of laparotomy in the case of intestinal obstruction was just. The operation should have been performed, but the circumstances of the case were such that surgical interference was out of the question. Treves recommended anæsthesia in children, previous to a trial of injections, to overcome the tenesmic efforts of the patient to pass off the fluid. As a rule, it was well not to use force; but would the simple force of gravity be enough to do any good? Treves recommended a nozzle with a pad attached, so as to prevent the return of the fluid.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Meeting of April 7, 1885.

The President, Dr. F. W. Bartlett, in the Chair;
Dr. Frank H. Potter, Secretary.

Hoarseness and Loss of Voice.—Dr. F. W. Hinkel read a paper with this title. These symptoms, he said, were the only ones almost invariably present in laryngeal affections, and when present they always pointed to some involvement of the larynx. Of themselves they threw very little light upon the pathological conditions, but were danger-signals warning us to properly investigate the larynx to ascertain the reasons for their being. This rendered a familiarity with the use of the laryngoscope necessary. Every physician should know how to use this instrument for purposes of diagnosis, even if he did not wish to treat this class of cases. Hoarseness and loss of voice occurred frequently in this climate, and were produced by any direct or indirect impairment of the functional integrity of the vocal bands. Anything which caused inability of the bands to vibrate with sufficient rapidity to produce sonorous vibrations of the air would cause aphonia. The causes of voice impairment varied from slight and temporary congestions to tubercular and malignant ulcerations, with all their attendant horrors.

Among the frequent causes of these symptoms might be mentioned subacute congestion of the laryngeal mucous membrane, and this, if increased in degree, becomes an acute laryngitis. The vocal bands, red, swollen, and irregular, were stiff with exuded serum and cell-infiltration. The surrounding tissues were also swollen and distended. The voice was reduced to a whisper. There was fever, with general constitutional disturbance. In children a spasmodic element was often added, especially at night. In debilitated persons, and those suffering from blood-poisoning, œdema of the larynx might result, which was frequently fatal. A chronic laryngitis might proceed from an acute attack, or the disease might have a sluggish type from the outset. It was very important to give attention to the "dregs" of an acute attack, and assist the tissues to regain their lost tone, lest the seeds of the chronic forms should be left. The latter was also marked by congestion and infiltration, but the color was not so deep, and the infiltration tended more to the formation of connective-tissue elements. The voice impairment was about the same in this form, but the bands were relaxed rather than stiffened, and thickened rather than swollen. Chronic laryngitis did not tend to recovery, and, if neglected, might lay the foundation for structural changes in the tracheal and bronchial mucous membranes. These lesions might be grave, and among them were to be mentioned catarrhal pneumonia, and pulmonary and laryngeal phthisis.

Dr. Hinkel then devoted some time to the consideration of laryngeal phthisis. Without entering into a discussion of the causes of tubercle, he stated that in its first stages laryngeal phthisis was indistinguishable from simple catarrhal laryngitis, or, in other words, a primary simple laryngitis might, under certain local and constitutional conditions, terminate in phthisis of the larynx. Then followed the stage of pallor of the mucous membrane of the larynx and pharynx and thickening and œdema of the arytæno-epiglottic folds. This appearance of the folds was pathognomonic of laryngeal phthisis, though sometimes it was so imperfectly developed as not to be easily recognized. In this stage the disease was often curable, and hence the importance of an early recognition. The only marked symptom might be a slight hoarseness, and a laryngoscopic examination was necessary to distinguish the disease. Then followed the stage of ulceration, with the attendant dysphagia and often dyspnœa. Cases were rare that had reached the stage that admitted of nothing more than merely palliative therapeutics before they had been recognized—a result which would often be avoided by proper means of examination.

The subject of new growths was then presented as being causative of impairment of the voice. The treatment of these conditions was among the triumphs of laryngology. New growths in the larynx, as elsewhere, were divided into the benign and the malignant, the benign, fortunately, being the more frequent. The latter were generally the result of previous inflammatory action. Dr. Hinkel believed he had sometimes witnessed the inception of benign new growths which had been aborted by the use of astringent and alterative applications. Aphonia and dysphonia were the most frequent symptoms. Dysphagia might occur when the growth was on the epiglottis. There was often no symptom except some slight voice impairment similar to that occurring in chronic laryngitis. The laryngoscope alone could establish the diagnosis. The most frequent of the new growths were papillomata, which were unusually sessile, often multiple. They occurred in any part of the larynx, but were most common upon the vocal and ventricular bands. The other forms of benign growths were fibromata, usually pedunculated, angiomata, and myxomata. The last two were of rare occurrence. The malignant growths in their early stages were with difficulty diagnosticated from the benign growths. Epithelioma was the most common form of cancer, but sarcoma also occurred. Extirpation offered little or no hope, and the prognosis was of a lingering and horrible death. Hoarseness and loss of voice might be due also to a paralysis of one or more of the muscles which produce the various movements of the larynx. It might be either of central or of peripheral origin. Central paralysis was rare and was accompanied by paralysis of other muscles and by other general symptoms. Peripheral paralysis might be due either to pressure or to inflammatory action. The first form was rare, except that due to pressure upon the recurrent laryngeal nerve. This might be caused by aneurysm, enlarged cervical glands, or even induration of the apices of the lungs.

The appearances produced by complete paralysis of this nerve were diagnostic and striking. The vocal bands hung midway between abduction and adduction, in the so-called cadaveric position. The power of phonation was lost, and coughing, sneezing, and clearing the throat were altered in character. Partial affections of this nerve would give rise to paralysis either of abduction or of adduction, according to the filaments affected. Paralysis of the abductors was rare, though of great interest, but did not immediately affect phonation.

Bilateral paralysis of the adductors, on the other hand, was more frequent. This might be hysterical in origin, though chronic laryngitis, previous nasal catarrh, lead poisoning, and the later stages of pulmonary phthisis had a causative relation to it. The voice was entirely lost, and during whispered speech there was shortness of breath, due to the waste of expired air through the wide-open glottis. Unilateral paralysis was usually the result of inflammation, either simple or specific. The voice was either hoarse, husky, or entirely lost. The arytænoideus might be alone affected, thus preventing the arytenoids being drawn together, and through the opening thus left the air escaped, preventing sufficient vibration of the ligamentous portions to produce sound. Lastly, the tensor muscles might be affected. The paralysis of the thyro-cricoid and thyro-arytenoid might be either bilateral or unilateral. The voice was gruff, monotonous, or suppressed. The thyro-arytenoid was often affected by inflammation of the mucous membrane of the larynx, on account of its superficial situation. As a result, there was a lack of tone about the vocal bands, and their approximation was imperfect. All these appearances, of course, were varied in partial or complicated paralytic conditions.

The treatment of hoarseness and loss of voice was the treatment of the causative diseases. The general principles of the treatment of inflamed mucous membranes were the same in the case of the larynx as in that of other parts. Their application varied with the conditions and the conveniences at hand. In acute inflammations, heat, moisture, and sedation in the form of steam inhalations, external compresses, etc., were of service. As the acute stage passed off, astringent stimulants, in the form of sprays, lozenges, and occasionally powders, were to be used. Chronic inflammations required stimulation from the first. The brush was occasionally of service for local applications. Stimulant sprays gave the best results. Galvanism externally, over the thyroid, was of benefit. Perverted conditions of the nose and pharynx would imperatively demand attention. Accurate localization of remedies and patience were the two prime factors of success.

New growths, when benignant, almost invariably demanded removal. This was best done by the forceps, the snare, or the cautery applied intra-laryngeally. When they were malignant, extirpation of the larynx was to be thought of, but palliation was usually all that remained to be done. In paralytic conditions, applications of the faradaic current, one pole over the thyroid and the other upon or near the affected muscle, usually gave good results. Inflammatory conditions must first be removed by topical applications. Whatever the remedies chosen, or the method of application adopted in a given case, the result would depend largely upon the accuracy of the diagnosis, and the care with which the remedy was applied to the exact seat of disease.

Dr. W. W. Potter reported a case of aphonia from paralysis of the intrinsic muscles of the larynx which he had relieved by external manipulation of the larynx according to the method of Henry K. Oliver, of Boston, as described in the "American Journal of the Medical Sciences" for April, 1870.

Dr. Van Peyma asked how old a child ought to be in order to make a laryngoscopic examination practicable.

Dr. Grosvenor asked whether tubercular phthisis could be a purely local disease.

Dr. W. S. Tremaine reported a case of paralysis of the adductor and abductor muscles on the right side, from a penknife wound of the throat. The puncture had wounded the eighth pair of nerves, and also some filaments of the spinal accessory. Electricity was tried without avail; the man finally recovered, however, after some months spent in out-door life.

Dr. Hinkel said he had made a laryngoscopic examination in a child two years and a half old. He hardly considered it practicable at that age, however, for the child could seldom be controlled sufficiently. He had seen cases of tubercular disease of the larynx where no other signs of constitutional infection could be found. It was possible, however, that there was present some constitutional disturbance, but of a latent character, which had as yet showed no other sign of its presence.

The President's Retiring Address.—Dr. Bartlett then read his retiring address, in which he reviewed the work of the year just passed, and again called the attention of the association to the advisability of dividing it into sections, as he had suggested a year ago. He thought that by this means more accurate work could be done than was accomplished under the present plan.

Officers for the ensuing year were then elected as follows: President, Dr. Charles G. Stockton; Vice-President, Dr. W. W. Potter; Treasurer, Dr. F. E. L. Brecht; Secretary, Dr. Frank H. Potter; Librarian, Dr. J. B. Samo.

CHICAGO MEDICAL SOCIETY.

Meeting of April 6, 1885.

The President, Dr. D. A. K. Steele, in the Chair;
Dr. Liston H. Montgomery, Secretary.

This was the thirty-fifth annual meeting, and was devoted to matters of business.

The Secretary's Annual Report.—After the disposal of various pieces of routine business, the meeting listened to the reading of an elaborate report by the secretary, recounting the work accomplished by the society during the year. It appeared by the report that fifty-eight papers had been read during the year, a number which exceeded that for any other year in the history of the society. The meetings had been attended by 759 physicians, while only 638 had attended the meetings of the preceding year. Fifty-one new members had been elected, being the largest number in any one year, the secretary thought. Abstracts of the proceedings of the meetings had been published in a number of the leading journals. The financial condition of the society was also reported as satisfactory, the funds showing a continued increase—"For what purpose?" the secretary asked. Various plans proposed in the past for their employment had been voted down, and the additional proposals were now made that they should be devoted to the ultimate purpose of obtaining possession of a hall, or to the establishment of a series of prizes for the best original papers read before the society.

The Annual Report of the Treasurer, Dr. E. F. Ingals, was then read. It showed a cash balance of $581.94.

The Library Committee submitted its annual report, from which it appeared that fifty-three volumes had been given to the library by six physicians, and that a considerable number of volumes had been acquired by purchase.

Officers for the Ensuing Year were elected as follows: President, Dr. Charles T. Parkes; First Vice-President, Dr. Charles W. Purdy; Second Vice-President, Dr. James H. Etheridge; Secretary, Dr. Liston H. Montgomery; Treasurer, Dr. Harold N. Moyer. Dr. G. C. Paoli, Dr. E. F. Ingals, and Dr. D. A. K. Steele were elected a committee on membership and miscellaneous business, and Dr. F. C. Hotz was re-elected a member of the library committee.

Delegates to the American Medical Association.—The following-named members were elected delegates: Dr. A. Reeves Jackson, Dr. G. W. Webster, Dr. W. P. Verity, Dr. H. J. Reynolds, Dr. H. T. Byford, Dr. E. J. Doering, Dr. J. E. Walton, Dr. Edwin Powell, Dr. A. E. Baldwin, Dr. W. W. Allport, Dr. G. H. Chapman, Dr. W. W. Jaggard, Dr. F. E. Waxham, Dr. A. Goldspoon, Dr. C. T. Parkes, Dr. L. H. Montgomery, Dr. D. A. K. Steele, Dr. G. C. Paoli, Dr. L. L. McArthur, Dr. A. H. Tagert, Dr. J. H. Etheridge, Dr. R. E. Starkweather, Dr. D. R. Brower, Dr. J. H. Plecker, Dr. D. T. Nelson, Dr. W. E. Clarke, and Dr. C. W. Earle.

After a few remarks by the retiring president, the new president, Dr. Parkes, was inducted into the duties of his office. On motion of Dr. R. E. Starkweather, resolutions were adopted approving of the action recently taken by the Sanitary Council of the Mississippi Valley petitioning the President of the United States to convene the National Board of Health at once.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of February 4, 1885.

The Contagiousness of Tuberculosis was the subject of a paper read by Dr. W. H. Webb. After an interesting review of the literature of tuberculosis, the author said that in the early part of 1882 Dr. Robert Koch made his name immortal by giving to the world the result of the researches and experiments by which he swept away all false ideas that had existed in regard to tuberculosis for a period of over two thousand years. It was then that he made the announcement that tuberculosis was a specific, infectious disease, caused by a specific micro-organism —the *Bacillus tuberculosis*—which constituted, in fact, the true tubercle virus. This statement was one of the most remarkable, in its import, in the history of medicine. The labors of the illustrious Pasteur and of Koch were now well known. They were the leaders of a host of equally zealous investigators who had acquired more or less distinction through their efforts in this direction. Careful researches by De Quatrefages, Cook, Livingston, Rush, Budd, and others, seemed to prove that tuberculosis first appeared among the inhabitants of Europe, and gradually manifested itself in those parts of the world with which they had intercourse. If this was true, it was one of the best evidences of the contagiousness of phthisis.

A contagious or infectious disease could have but one cause, and this was eminently true of tuberculosis, which did not arise from a variety of causes, but was solely due to the tubercle bacillus. Wherever this bacillus found its proper nidus it would develop and multiply; and, if this was in living animals or human beings, the progress of the disease would be determined by the character and amount of food offered for the growth of this germ; thus, with a nidus rich and plentiful, we might have a case of acute phthisis not lasting more than thirteen days; and, on the other hand, if the pabulum was poor and scant, the case might be a chronic one extending over a period of twenty-five years.

The bacilli might enter the system through the lungs or by the stomach. The air we breathed, as well as the food we took, especially in the vicinity of the phthisical, might be laden with these germs. The air of the ventilating flues at the Brompton Hospital, when carefully examined, was found to contain tubercle bacilli in fair abundance. The sputa of tuberculous patients, drying upon our streets, was ground into an impalpable powder by the feet of pedestrians, and then disseminated through the air, to be inhaled alike by the healthy as well as those predisposed to tuberculosis. Such sputa, mixed with the dirt of the street, had been collected, dried, and powdered again, at frequent intervals during a period of several months. Guinea-pigs were then inoculated with this matter, and in a short time the animals thus treated died from tuberculosis.

To admit that the tubercle bacillus was a pathological product was to express a belief in spontaneous generation. It was asserted by some pathologists that other matter or irritant than the tubercle bacillus was capable of producing the disease. This idea was not a new one, for Richard Morton said: "Chalky stones that are preternaturally bred in the lungs, or nails, and other hard bodies, slipping down into the lungs, when persons laugh, are to be recorded among the causes of a consumption of the lungs"; and he narrated a case.

It was also maintained by a number of writers that certain callings or occupations might be a cause of tuberculosis, owing to fine particles of dust inhaled by those employed. Thus, coal miners, dry grinders, stone cutters, molders, operatives in cotton and woolen mills, etc., were apt to have the disease. But those who believed that the dust breathed by individuals engaged in these occupations might occasion phthisis were evidently oblivious of the fact that the air carried, in the form of germs, far more potent factors; and that, while the dust might have produced an irritation of the air-passages, the presence of the tubercle bacilli was essential to the production of the disease. The inhalation of irritants, or lowered vitality, occasioned by certain occupations, might cause the predisposition, but they were never the cause of the disease *per se.*

Not all the predisposing causes united could in any instance induce tuberculosis without the advent of the tubercle bacillus. That something more was needed was admitted by Pollock twenty years ago, when he declared that there must be "some subtle agent to precipitate, concentrate, and shape these elements of disease into tubercle." And Da Costa said, whatever it was, it was something special.

Experiments had demonstrated, beyond doubt, that it was impossible to induce true tuberculosis in any case where proper precautions had been taken to remove all living germs from the irritant used. This was now accepted as a fact by many of those who once held a contrary opinion.

Objections were also made to the opinion that these bacilli were the cause of tubercle, because they were not found in all the cases of tuberculosis examined by certain investigators. It was fair to presume that in these instances they must have escaped detection, since bacilli had been found in every case of tuberculosis examined by careful observers.

Many instances were recorded where foreign bodies had been carried into the lungs by gunshot wounds or otherwise, without occasioning much disturbance in the parts or seriously affecting the health. Rush, with his experience of the Revolutionary war, declared that he had never known a case of phthisis to result from wounds in the lungs, and this observation was supported by the Surgeon-General of the British army. A number of cases of gunshot wounds of the lungs occurred during the late war, but, as far as known, they were not the occasion of any death by phthisis. But, in cases where a predisposition existed, it might be still further developed by the presence of an irritant, just as a furuncle in one individual might be harmless, and in another the starting-point of a cancer.

So certain diseases, occasioning an irritation or a lowered vitality of the pulmonary mucous membrane, had the reputation of being the indirect causes of tuberculosis. Measles, especially when occurring in children of phthisical parents, were liable to have consumption as a sequel. The mucous membranes were implicated in this disease, probably more than in any of the eruptive fevers; the epithelium was cast off, and the denuded membrane exposed to the direct contact of the tubercle bacillus.

It had been satisfactorily demonstrated that tuberculosis might be caused by inoculation in the human subject. Laennec, while examining a vertebra containing tubercle, slightly wounded one of his fingers with the saw-blade. In the site of this wound a small, rounded tumor subsequently appeared, which, upon investigation, exhibited all the physical characters of tubercle. It was destroyed by the application of an escharotic, and no bad effects resulted from it. Another instance was that of a fisherman free from tuberculosis, but suffering from gangrene of the toe, who was purposely inoculated. Thirty-seven days after the experiment he died, and the autopsy revealed a tuberculous deposit in the lungs and liver. But the most satisfactory evidence of the effects of inoculation of tubercle was presented in the case recorded by Dr. E. A. Tscherning. The subject, employed as cook in the family of Professor H., was a perfectly healthy woman, about twenty-four years of age, with a history exceptionally free from any hereditary taint of scrofulous or tuberculous affections. After a short illness the professor died of phthisis. The cook unfortunately broke the glass sputum-cup used by her employer, and a spicula from it punctured one of her fingers. Fourteen days afterward there appeared at this point what seemed to be a felon. This was treated at Professor Studgaard's clinic, and at the end of a few weeks the finger was much better; a little nodule, however, about half as large as a pea, was found to exist in the subcutaneous connective tissue, which after a while became tender and œdematous. This was now cut out, and the wound healed readily. About three months from the time of the accident, Professor Studgaard found that the sheath of the tendon was thickened, and two cubital and two axillary glands were enlarged. He disarticulated the middle finger, and the tendon, with its thickened sheath, as well as the enlarged glands at elbow and axilla, was dissected away. Upon examination, the sheath of the tendon was found to be filled with pale granulations. Sections of the sheath and of the extirpated glands were subsequently subjected to microscopic investigation, and numerous tubercle bacilli found in them, which positively established the peculiar character of the affection. Dr. Tscherning had observed upward of thirty cases of localized tuberculosis, and in each instance the microscopical appearances were the same as in this case. Many eminent men, by their constant attendance upon the phthisical, and by their close and frequent study of the post-mortem conditions of their cases, had been made victims to the disease themselves.

Much stress had been laid upon heredity as one of the chief causes of the vast mortality from this disease. It was the author's belief that phthisis was never transmitted from parent to child; it was simply a predisposition that was inherited. By predisposition he meant a greatly lessened power of resistance in the tissues, especially in the lymphatic system. If tuberculosis was inherited, we might expect to find some indications of it in the fœtus, but the observations of Guizot, Gluge, Heller, and Virchow had shown that this was not the case. In 1,300 fœtuses examined by Heller, there was no evidence of a tuberculous taint in any one of them, notwithstanding the fact that in one instance the patient died of phthisis with the fœtus *in utero*. Virchow, with his experience of more than fifty years, said he had not seen a single case of direct transfer in the fœtus. This also held true in regard to the offspring of animals which had been under observation while suffering from tuberculosis; there was no instance on record in which they had exhibited a trace of the disease. The presence of the disease in infants was undoubtedly due to the bacillus, or its spores, contained in the milk of the phthisical mother, or in the air it was constantly obliged to breathe. In other words, the disease was not transmitted, but it was acquired.

There were but few insurance companies that would accept as a risk any one whose family history is not clear of tuberculosis; hence it would seem that such careful exclusion would remove all questions of hereditary transmission in those losses which they might sustain by deaths from phthisis. One of the most conscientious companies in this respect was the Mutual Life Insurance Company, of New York. It was especially careful in excluding such risks, and would not only refuse to accept an applicant who had a phthisical history, howsoever remote, but would not regard an application in which there was the least evidence of a predisposition to the disease, no matter what the age of the applicant might be. Notwithstanding the exercise of an unusual amount of vigilance, they were, nevertheless, obliged to declare that consumption had been the occasion of more deaths than any other disease, giving a percentage of 17·61 of the total mortality; while deaths recorded under other headings, but properly belonging to this, would swell the number to 20 per cent. Here, then, was a freedom from hereditary taint as far as rigid examinations were capable of determining it. Under such circumstances the rate of mortality was surprising to those, at least, who had faith in the hereditary transmission of the disease. A few years previous to that in which this report was made, the death-rate from consumption in the adult male population of New York city was 30·17 per cent. This was but little over 13 per cent. greater than among those who were considered especially exempt from the disease.

It would be impossible to enumerate the so-called causes of tuberculosis. The disease had been attributed to every imaginable influence which could occasion a morbid condition of the system. This error was readily accounted for when it was understood that any influence which would bring about a lowered vitality would induce a predisposition to the disease, which was established by the presence of the *Bacillus tuberculosis.*

In looking over health reports and other statistics he had been surprised at finding records relating to the time of life when tuberculosis was most prevalent, which were entirely at variance with the ideas entertained by many practitioners. It was very generally believed that at the age of puberty, especially in those supposed to possess an hereditary taint, phthisis was most apt to manifest itself, and that the liability to contract the disease was lessened with advancing years. It seemed, however, that this was not the case, for in early childhood and at puberty the mortality was less than at any other period of life. There was reason for believing that the best way to determine the time of life at which the disease was most fatal was to compare the death-rate occasioned by it at certain periods of life with the number of living persons at the same age. This had been done by several reliable persons. A table prepared by A. Würzberg, the librarian of the Imperial Health Office at Berlin, went to show that at the two extremes of life, where vitality was at the lowest, thus lessening the power of resistance, the disease was most fatal.

It must not be forgotten that, among the many causes which led to a predisposition to tuberculosis, conditions of mental depression played an active part. Bad habits or immoral conduct, which led to bitter regrets, or domestic infelicity, occasioning long-continued fret and worry, will produce a depression of this character more or less marked.

The author then cited a number of cases that had come under his own observation, and went on to say that no one, not even the non-contagionists, could declare that the cases narrated were simply "coincidences."

If the most convincing proof of the truth of a comprehensive theory lay in its power of absorbing and finding a place for new facts, and its capability of interpreting phenomena which had previously been looked upon as unaccountable anomalies, he knew of no theory more truthful that the one advocated. It would fully explain every phenomenon connected with this malady, the universal mortality it occasioned in every part of the world, and why one member of a family after another, with no hereditary predisposition, had succumbed to its power. It was a singular fact that in all the recorded cases where the disease had been occasioned by close association with the phthisical, as in nursing, it had been unusually rapid in its course, frequently carrying off those unfortunates during the lifetime of those from whom the disease was contracted.

And what did all this teach us? Simply that our real strength in battling with this terrible disorder lay not so much in medication as in the application of hygienic and sanitary laws.

Like other disease germs, the tubercle bacilli were carried by the air, and would, of course, be found to be more plentiful in the vicinity of the victims of tuberculosis. A single bacillus might as surely induce the disease as a great number; and, since we were at no time free from the chance of inhaling this germ, our safety lay in avoiding a "predisposition" to lung troubles. In order to determine whether the bacilli might be readily found in the air of the street, or of places of public resort, he had constructed certain instruments, which were shown.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of January 8, 1885.

The President, Dr. B. F. Westbrook, in the Chair;
Dr. A. H. P. Leuf, Secretary.

Epulis.—Dr. Walter B. Chase related the history of the case of a lady, about twenty years old, who presented herself in the winter of 1882, with a growth about as large as a small pea, springing from the lower jaw between the middle and the lateral incisor teeth on the left side. The growth was painless, but somewhat tender on pressure. It was removed with scissors, and the parts healed kindly. In November, 1884, it had returned, and was about as large as a small hickory-nut, but flattened, and rested between the teeth and the lip, where it was a source of considerable annoyance. The speaker again removed it, with a portion of the gum immediately contiguous, and cauterized the parts with chromic acid. Four weeks afterward he could find no sign of its return.

Pathological Photography.—Mr. J. M. Van Cott, Jr., read a paper on this subject, and illustrated it profusely by the projection of photographs, both gross and microscopical, upon a screen with the aid of a stereopticon.

Medullary Cancer of the Breast.—Dr. C. N. D. Jones showed a specimen removed from a married woman, thirty-nine years of age, a native of Ireland. The tumor had been of rapid growth; a small lump was first noticed in the left breast in December, 1883, and in May, 1884, it had reached the size of a small orange, and gave rise to some pain. After the operation, the wound healed slowly by suppuration. After it had closed, the axillary glands were found to be enlarged and indurated. The specimen was seen to form a rough, lobulated mass, varying in consistence in its several portions, and presenting a whitish-gray appearance on section. Microscopical examination showed a stroma of connective tissue in the form of alveoli, within which large, nucleated polyhedral epithelia were grouped. The connective tissue was scanty and fibrous in character, and the alveoli were of various forms and sizes. The disease would probably return within a year and soon prove fatal, judging of the degree of its malignancy by the rapidity of its growth and by its microscopical appearances.

Cerebral Tumor.—Dr. Landon Carter Gray presented a specimen, and related the history of the case.

Reports on the Progress of Medicine.

PSYCHOLOGICAL MEDICINE.

By J. LEONARD CORNING, M. D.

Monomania.—Bannister ("Amer. Jour. of Neurol. and Psych.") has presented a lengthy argument in favor of the theory which defines monomania as essentially constituted of a single delusive conception. It is not necessary, however, to limit the use of the term to the class of cases included under this definition. Indeed, the designation may conveniently be applied to all cases of insanity the essential characteristics of which are systematized delusions or imperative conceptions restricted to individual faculties, and not involving the mind as a whole. The fundamental idea conveyed by the term is that of a partial insanity—a condition of things in which the psychological mechanism is only involved in a fractional sense. There may be a slight degree of mental feebleness, but this is not the essential factor in the psychological picture. Where the delusions are not fixed or systematized, the insanity can not properly be classed under the head of monomania, but must rather be relegated to the group of "general" insanities. Logical ratiocination is not exclusively an attribute of monomania, but may also be present in simple melancholia and in the milder forms of acute mania. In a case of circular insanity observed by Bannister, the sufferer was in both stages so entirely conscious of his condition, and possessed of such a degree of self-control, "that he was able to keep his place in society and business."

The case of Guiteau was probably an example of what is known among German writers as "originäre Verrücktheit," and under the designation "Verrücktheit" they also include monomania. Delusions are not peculiar to monomania, and it is perhaps a matter of doubt whether many of the cases of secondary delusional insanity, even where the delusions are fixed and accompanied by a certain amount of mental weakness and confusion, are to be included under the designation. Whether Guiteau ever had a fixed delusion or any honest delusion appears open to question; but, on the other hand, his mental capacity was so inferior that he was entirely unable to estimate the significance and possible consequences of his conduct. His judgment was indeed to the last degree defective. So far as certain mutable delusive opinions, exhibited by Guiteau, are concerned, they may with perfect propriety be ascribed to the general condition of mental and moral degeneration and weakness. In corroboration of this view of the essential nature of the affection, an interesting case, occurring in his own practice, is cited by the author. Finally monomania is defined by him as "a partial insanity, consisting essentially of delusions or imperative conceptions, and not necessarily affecting the general intellectual or emotional life, except in the logical outcome of these." As the author remarks, this definition does not exclude the possibility of a certain degree of concomitant mental weakness. As a matter of fact, a certain amount of mental feebleness usually accompanies the delusions, but it is not the fundamental characteristic of the disease.

Communicated Insanity.—Montgomery (*Ibid.*) includes under this title the various types of the form of mental disorder known as *folie à deux*. From an analysis of a number of cases he arrives at the following conclusions: 1. Imitation by the passive recipient and domination by the creative personage, both play parts in the production of communicated insanity. 2. That at some time it may be found but just to examine the mental status of alleged conspirators from the standpoint of "communicated insanity." As to the question of the acceptance of insane ideas, opinions are cited in favor of the theory which ascribes great importance to a morbid tendency to imitation. The passive recipient is not merely such, but is also the victim of a morbid inclination to imitate what appears to be especially remarkable. Besides these psychological elements there is, however, another potent factor. Usually the individual who attempts to impose the delusion is possessed of more commanding intellectual ability, and is, at the same time, accustomed to assume a dominating tone toward those about him. Thus Hagen cites the case of a sane but stupid mother who accepted the delusions of persecution entertained by her son as true, but ascribed them to sorcery. The acceptance of the delusions by the passive individual is, in such cases, the result of a desire to avoid the exertion of reasoning. Sometimes also, as in a case cited by Spitzka, the delusion is accepted in order to avoid annoyance.

Insanity and Cardiac Disease.—Kiernan (*Ibid.*) points out that, like other somatic features of insanity, the relations between insanity and cardiac disease are threefold in character. Thus, cardiac disease produces insanity, it is affected by insanity, and it affects pre-existing insanity. The influence of cardiac disease in the production of insanity has certainly been over-estimated by some, notably by the earlier alienists. Speaking in general terms, it may be said that the types of insanity which result from cardiac derangement are usually characterized by depression and emotional disturbance. Dickson has found that mitral imperfection is followed by transient lypemania; aortic disease by a more permanent type. With this opinion several authors are inclined to agree. When a patient, already insane, is affected with cardiac disease, Burman has found that sullenness and moroseness are produced, and Kiernan has also observed suspicion in such cases. The author then cites a case of katatonia as illustrative of the influence of insanity on cardiac disease. Griesinger states that murmurs, particularly of the aortic valves, are of frequent occurrence, without concomitant valvular lesion, in conditions of exaltation. The same author also states that observations conducted in the asylum at Vienna demonstrate that the heart-sounds are indistinct during great excitement, but become clear when tranquillity is restored. Taking into consideration the various cases narrated, the author feels justified in drawing the following conclusions: 1. That cardiac disease produces psychical symptoms: depression, hallucinations, as well as delusions. 2. That cardiac disease may modify co-existing insanity. 3. That insanity may produce cardiac symptoms.

Mental Derangements consecutive to Cranial Injury.—Hartmann ("Arch. f. Psych. u. Nervenkr.," xv, 1884) has made an elaborate study of the ætiological relation of cranial injuries to various forms of mental aberration. Among the various causes of psychic derangement, injuries about the head occupy a deservedly prominent position. The statistics as to the frequency of psychosis after cranial injuries are, however, quite contradictory. Among 500 cases of insanity, Schlager found 9·8 per cent. following upon cranial injury; Kraft-Ebing, among 4,062 insane patients, was able to trace 55, or 1·1 per cent., to purely traumatic causes, while Mitchell ascribes 2 per cent. of all the cases of idiocy in Scotland to cranial injuries. Schlager has also noted that in the majority of cases the location of the injury was either in the parietal or the occipital region. Next in frequency were injuries about the frontal and temporal bones. The immediate results of these wounds were in 21 cases entire unconsciousness or confusion of ideas, and in 12 dull headache. The age at which the injury was received showed considerable variation. The advent of the psychosis took place in 19 cases within one, in 10 within two, in 9 within three, and in 6 within five years. It is worthy of note that in four cases the mental derangement did not make its appearance till after the expiration of ten years. The prodromes are of various kinds. Sometimes they manifest themselves in psychic derangements; the subject complains of vertigo, accompanied by cerebral congestion, and evinces unusual susceptibility to alcoholic stimuli. Mental irritability and emotiveness are also very characteristic of the premonitory stage. Sensory disturbances, such as hyperæsthesia of the retina, amblyopia, photophobia, amaurosis, and tinnitus aurium are almost invariably met with. Of rarer occurrence are aberrations of the sense of smell, abolition of the power of speech, vomiting, diplopia, strabismus, uneven pupils, weakness of the extremities, paralysis of the bladder, and epileptic attacks. From an analysis of a considerable number of cases, Schlager, moreover, felt justified in formulating the following conclusions: 1. Concussion of the brain, accompanied by injury to the cranial bones and followed by insensibility or confusion of ideas, points with considerable probability to the occurrence of future mental disorder. 2. The older the individual the greater the probability of future mental trouble. During the first three years after injury the danger of psychic derangement is, relatively speaking, the greatest. 3. The location of the injury exerts no influence upon the character or occurrence of the psychosis. 4. The latter is characterized by powerful motor disturbances, and is of unfavorable prognosis. Skae was the first to establish a particular form of insanity after cranial injury (traumatic insanity), and, to a certain extent, Kaulbaum acknowledges the individuality of this species of mental derangement under the designation "cephalosic." After an elaborate sifting of the data afforded by various writers, the author arrives at conclusions which are, in many respects, at variance with those of Skae and Kaulbaum. For example, in his final *résumé*, he repudiates the idea that traumatic insanity represents a specific nosological form; but, on the other hand, he accepts the opinion of Schlager, that the character and location of the wound do not exert an influence upon the subsequent psychosis. The views entertained by the author with regard to the prognosis may be said to be unfavorable in the majority of cases.

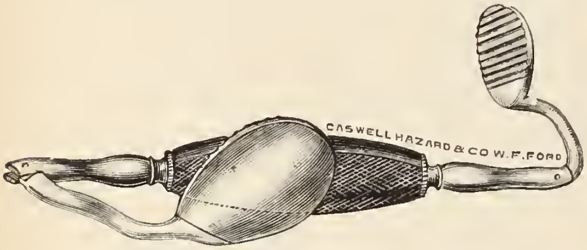
Mind as a Social Factor.—Ward ("Mind," Oct., 1884) points out that, in spite of the fact that an enormous amount of energy has been expended in the study of the intellect, the true relation of the latter to social phenomena has been entirely lost sight of. Finally, there appeared the scientific philosophy which essayed to explain the nature of mind. The dependence of the latter upon organization in general and upon brain in particular was proved by scientific experimentation, and the domain of metaphysics became elevated to the dignity of psychology. The brain being the organ of the mind, its physical seat and cause, mental phenomena, must therefore be regarded as the natural products of evolution, and amenable to classification and study, like all other natural phenomena. The author proceeds to enter an energetic protest against the *laissez faire* doctrine which has permeated sociological science and, indeed, given color to all forms of scientific research. The origin of the doctrine in question is traceable to the "law of the survival of the fittest." Adherents of this, the prevalent mode of sociological thought, ignore, however, the fact that, in the development of mind, a virtually "new power" was brought into the world. To affirm this need cause no astonishment, since it is no more than has occurred on many occasions "in the course of the evolution of living and feeling beings out of the tenuous nebulæ of space." . . . "The great fact, then, to which I allude is that, in spite of all philosophy, whether mythologic, metaphysical, or naturalistic, declaring that man must and can do nothing, he *has*, from the very dawn of his intelligence, been transforming the entire surface of the planet he inhabits." [This is the fundamental idea of Mr. Ward's "Dynamic Sociology," published by D. Appleton & Co. No one at all conversant with modern philosophical thought can peruse the work in question without becoming convinced that it is one of the greatest if not the most important of recent contributions to sociological science. The article on "Mind as a Social Factor," from which we have taken the liberty of extracting some of the more important points, will be found to be an excellent introduction to Mr. Ward's great work. It is not, on the whole, surprising, though eminently gratifying, that the most important and *practical* recent contribution to sociological science should have been made by an American.—J. L. C.]

Insanity Defined.—Hughes ("Alienist and Neurologist," Oct., 1884) pertinently observes that the definition of insanity is a difficult subject, but that recent advances in the study of obscure forms of mental disease have done much to render the problem easier. Moreover, definitions of insanity have heretofore been embarrassed by hypothetical conceptions of the nature of the human mind and its operations in health. A correct definition can be reached only by a careful analysis of all available symptomatic data. "The essential fact to a correct comprehension of insanity has been demonstrated, and is beyond disproof, namely, that whatever conception we may hold as to the essential nature of mind, it is allied in all its manifestations to organism, and can not in life be dissevered from it. From Cœlius Aurelianus and Celsus to Hippocrates, Broussais, Rush, and all the later reputable writers of our own time, mind deranged has been and is allied to an organism disordered." The true essence of insanity is, therefore, a subjective (?) morbid change in an organism (due either to ante-natal or post-natal conditions, but usually to both), in the nature of deranged organic or special sensation or impulse. Alienation is formulated by the author in the following proposition: "Morbid delusive conception or perception of subjective origin, causing change of mental character as compared with former self, or normal ancestral type, through organic conditions originating in disease within the system; external motives playing but a secondary part when they influence at all the mental conduct." [This paper is well conceived and well written, evincing close thought and mature powers of reflection.—J. L. C.]

New Inventions, etc.

A MODIFICATION OF TÜRCK'S TONGUE-DEPRESSOR.

The accompanying cut represents a double-end folding Tongue-Depressor, a modification of the well-known Türck instrument, devised by Dr. R. C. Brandeis.



There are two sizes of the tongue-portion of the instrument, which, when closed, fold against opposite sides of a hard-rubber handle, thus making a compact and portable instrument. The advantages of this over the original form, which has three interchangeable tongue-pieces, are obvious. It is made in a neat and substantial manner by Mr. W. F. Ford, of Messrs. Caswell, Hazard & Co.

Miscellany.

An Operation for Abdominal Aneurysm.—We learn from the "British Medical Journal" that Professor Loreta, of Bologna, who has already achieved world-wide renown by the introduction of a new operation for dilating the orifices of the stomach in cases of stricture, has recently adopted with success the bold expedient of cutting down upon a traumatic abdominal aneurysm, and introducing several inches of silver wire into the sac. The pulsation ceased in three weeks, and within three months the patient returned to his work.

The Late Dr. Louis Elsberg.—At the last regular meeting of the Medical Board of Charity Hospital, held April 1, 1885, the following resolutions were passed:

Whereas, our late associate, Dr. Louis Elsberg, has been removed from us by death, therefore,

Resolved, That we, the Medical Board of Charity Hospital, express deep regret at the loss of our associate, whose interest in medical subjects and desire to advance medical science, and whose uniformly kind and courteous demeanor toward his patients, as well as colleagues, won our esteem and admiration.

Resolved, That we express our appreciation of the services rendered to the hospital by the deceased, and our acknowledgment of his unabated zeal and fidelity in the performance of his hospital duties, when failing health and bodily weakness required freedom from professional cares.

Resolved, That the death of Dr. Elsberg deprives this community of one of the most useful citizens, and the branch of medical science which he so successfully cultivated of one of its most efficient promoters and highest authorities.

Resolved, That a copy of these resolutions be sent to the family of the deceased and to the medical journals of this city.

[Signed.] J. Lewis Smith, M. D., } *Committee.*
William T. White, M. D., }
Fessenden N. Otis, M. D., *President.* J. Blake White, M. D., *Secretary.*

The Health of Michigan.—It appears from an abstract of the returns made to the State Board of Health, for the five weeks ending April 4th, for a copy of which we are indebted to the board's secretary, Dr. Henry B. Baker, that for the month of March, as compared with February, remittent fever and rheumatism increased in prevalence; and that, as compared with the average for the month of March in the seven preceding years, rheumatism and neuralgia were more prevalent, and intermittent fever, diphtheria, measles, scarlet fever, influenza, and pneumonia were less prevalent. Diphtheria was reported from thirty-two localities.

THERAPEUTICAL NOTES.

Arsenic in the Treatment of Lymphoma.—Karewski ("Berlin. klin. Woch."; "Ctrlbl. f. Chir.") insists that it is highly important to decide whether a glandular swelling is innocent in character, or has a malignant tendency, since in the latter instance the arsenical treatment is of no avail. He reports four cases which were treated with Fowler's solution, partly given internally in doses of from six to twenty drops, and partly administered by the method of parenchymatous injections, the solution being introduced directly into the glands. In three cases the cure was complete. It is significant that the number of the white blood-corpuscles was increased rather than diminished during the treatment. The writer does not attempt to explain the manner in which the drug acts.

The Palliative Treatment of Epithelioma of the Cervix Uteri.—Biddle ("Brit. Med. Jour.") speaks highly of injections of corrosive sublimate and glycerin in cases of epithelioma attended with great pain. He uses a quarter of a grain of the sublimate to half an ounce of glycerin. This is added to a pint of water for an injection into the vagina, to be used twice a day. The anæsthetic, as well as antiseptic, properties of this solution are said to be great.

Jequirity in Skin Diseases.—Dr. Shoemaker, of Philadelphia ("Practitioner"), has used this drug in the treatment of lupus and rodent ulcer, and reports several successful cases. He adds the caution that the applications (of the emulsion) must be made with great care, on account of the tendency of jequirity to cause erysipelas.

Salicylate of Sodium in the Treatment of Migraine.—Cutierrez ("Paris méd."; "Lyon méd.") recommends this drug very highly, fifteen grains being administered in two doses, with an interval of a quarter of an hour. He states that speedy relief is experienced after taking the first dose, and that when the second one is taken the pain vanishes completely.

An Ophthalmic Antiseptic Solution.—In a recent discussion at the Paris *Académie de médecine* ("Union méd.") M. Panas stated that, in a large practice in ophthalmic surgery, he had never had any cases of erysipelas after the use of the following mixture:

Bichloride of mercury, Chloride of ammonium,	each .... 5 grains;
Glycerin	3 drachms;
Water	3 quarts.

The parts are washed with the solution, and after the operation a piece of linen dipped in the fluid is applied to the affected eye.

An Antiseptic Vaginal Injection.—The "Bulletin général de thérapeutique" states that the following formula is habitually employed in the Lariboisière *Maternité:*

Biniodide of mercury, Iodide of potassium,	each.............. .. 1 grain;
Water..................................	1 quart.

The temperature of the injections is about 113° F.

THE NEW YORK MEDICAL JOURNAL, April 25, 1885.

Original Communications.

INJURIES TO THE PELVIC FLOOR FROM PARTURITION AND OTHER CAUSES.

By ALEXANDER J. C. SKENE, M. D., Brooklyn,
PROFESSOR OF GYNÆCOLOGY IN THE LONG ISLAND COLLEGE HOSPITAL.

(*Concluded from page 406.*)

OPERATION FOR THE RESTORATION OF THE SPHINCTER ANI AND PERINÆUM.

It has been already stated that the chief object of all plastic operations upon the pelvic floor should be to restore the muscles that have been injured. This is pre-eminently so in the operation to be described, because the sphincter ani is the most difficult to restore, and the results of failure are so apparent that neither the surgeon nor patient can possibly believe that the operation is a success when it is not—a delusion often indulged in regarding the plastic operations upon the lesser injuries of the pelvic floor.

In order to comprehend the position and relations of the surfaces to be vivified, it must be borne in mind that when the sphincter ani is ruptured the severed ends are drawn outward and backward by the retraction of the muscle until they lie on either side nearly on a line with the posterior walls of the rectum. This may be better understood by referring to Fig. 23. The dark spots on either side are the ends of the muscle which are drawn down below the surface.

The process of vivifying should be begun by seizing the end of the muscle on the patient's left. With the scissors remove a strip of tissue from that point around the tissues between the rectum and vagina, and downward and outward to and including the end of the muscle on the right. When this is done, it will sometimes be found that the softer tissues rise above the depressed end of the muscle, so that a fossa is formed on each side. Should this be so, more of the most prominent tissue should be removed. The denudation is then carried upward upon each side to the point where the laceration began. If there is much relaxation of the parts, the denuding may extend even higher.

The sutures are introduced according to the methods already described, but special care is necessary in introducing the first two, which are employed for the purpose of bringing the ends of the sphincter together.

In introducing the first suture, the point of the needle should be entered at the inner and lower point of the vivified surface, then carried outward around the end of the muscle, then inward through the lower margin of the recto-vaginal wall, and finally around the other end of the muscle, directly opposite the point where the needle was entered. This requires skill and practice, and is often difficult; and I have found it easier to pass the needle around the ends of the muscle and bring it out within the margin of the mucous membrane of the vagina, re-introduce it on the opposite side, and carry it round the other end of the muscle. The objection made to this method is that the central portion of the suture is exposed upon the rectal mucous membrane; but if it is not passed through the mucous membrane, but above it, the suture is completely buried in the tissues when it is tied. Certainly it is better to introduce the first suture accurately in this way than to attempt the more difficult way and fail to get it right, a result usual to those who are not accustomed to this operation. When the first suture is passed in the way last described, the second suture may be introduced according to the first description. The remaining sutures are employed in the way described in the operation for restoring the laceration in the first degree. Fig. 23 shows the sutures in place.

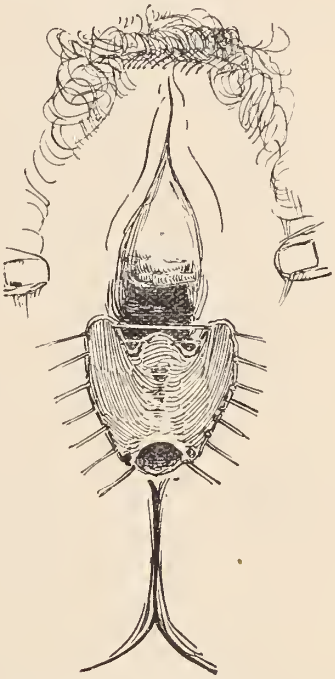


Fig. 23.—Operation for complete rupture; stitches in position.

Further details of the operation will be brought out in the following history of cases:

Typical Case of Laceration extending through the Sphincter Ani.—The patient was twenty-six years old when she was confined with her first child. The labor was tedious, and she was delivered, with forceps, of a very large child, which died during delivery. She made a rather slow recovery, owing to the extensive injury to the floor of the pelvis. Five months after confinement I saw her for the first time. She was then in very good health, but suffered pain in the region of the injury, especially when she walked, and she had very little control of the rectum. When constipated, she suffered very little; but, when the bowels were free and when there was flatulence, she was obliged to remain secluded.

I found that the laceration involved the sphincter-ani muscle, and evidently had extended upward into the wall of the rectum and vagina; but union had taken place, by a little intervening scar tissue, down to the sphincter, or within a quarter of an inch of it. The muscles of the pelvic floor, excepting the sphincter and transversalis perinei, acted well, and held the divided sides well upward. The end of the rectum was also drawn upward and forward, so that the distance from the vestibule to the posterior margin of the anus was less than normal. This brought the posterior wall of the vagina up to the anterior, so that the vagina was closed. It was only by placing the finger in the rectum and pressing it backward that the full extent of the laceration became apparent. She was constipated, and her tongue slightly coated, at this time. Pil. hydrarg., gr. x, and pulv. ipecac., gr. j, were given at bedtime, and a wine-glass of Hunyadi Janos water an hour before breakfast next morning. This moved the bowels freely, and they were kept free for the following two weeks with the following:

Fluid extract of podophyllum	ʒ j;
Tincture of colocynth	ʒ ij;
Tincture of belladonna	ʒ j;
Glycerin	℥ ss.;
Syrup of acacia and compound tincture of cardamom., Of each	℥ j.

A teaspoonful of this noon and evening before meals. When this acted too freely, only one dose was given.

During these two weeks the nurse passed the finger every day into the rectum and pressed the parts back toward the coccyx, maintaining the traction steadily for several minutes. This was done for the purpose of restoring the elasticity of the tissues, and also elongating the divided sphincter muscle as much as possible. Menstruation then began, and no further local treatment was employed until after it stopped, when it was resumed. Four days after the menses ceased, the operation was performed in the prescribed way, silk sutures being used. For twenty-four hours before the operation, and for three days after, she had only fluid food—beef-tea, strained soups, whey, and water. After the third day, peptonized milk, strained oatmeal and barley gruels, and raw oysters were added to the diet list.

There was sufficient pain during the first three days to require ten drops of liquor opii comp. to be taken every four hours. On the fourth day she suffered from flatulence, which was relieved by catheterizing the rectum, using a silver catheter; this had to be repeated the following day. On the eighth day (and before the sutures were removed) half an ounce of sulphate of magnesium in peppermint-water was given before breakfast and toward noon; when the patient felt the bowels inclined to move, half a pint of solution of ox-gall and water were used as an enema. When this had been retained about twenty minutes, the nurse assisted the evacuation of the bowels by making pressure upon each side of the wound opposite the first suture, and, with the index-finger of the other hand in the vagina, she made gentle and interrupted pressure downward and outward. In this way it was hoped that the rectum could be evacuated without disturbing the wound. There was not the slightest trace of hæmorrhage, which gave reason for believing that no harm had been done.

On the ninth day all the sutures were removed, and on the tenth day the bowels were moved in the same way as before. During all this time the catheter was used to draw the urine. After this the patient was permitted to urinate in the prone position. Every second day until the twentieth the bowels were moved, the same care being taken by the nurse to guard the wound during the evacuation. On the twentieth day the wound was carefully examined, and there was apparently perfect union throughout, including the mucous membrane. The function of all the muscles of the pelvic floor was restored, except that of the sphincter ani. The function of that muscle was sufficiently restored to give the rectum retaining power, but it did not act as a perfect sphincter muscle. When it acted, the contraction was not equally toward the center, but rather toward the point of rupture that had been restored. The posterior portion of the perineal body acted like a fixed point, toward which the muscle contracted. I am inclined to believe that this is the best result that can be obtained by this operation. After the new reparative tissue which is developed during healing has fully contracted, the function of the muscle becomes more nearly restored. Indeed, it is in many cases quite perfect so far as controlling the rectum is concerned, but it rarely, if ever, acts exactly as it did before injury—i. e., by a perfect concentric contraction.

A CASE ILLUSTRATING PARTIAL FAILURE OF THE OPERATION; A SECOND OPERATION COMPLETING THE CURE.—The patient was thirty-five years old, and had had three children. The youngest was eighteen months old at the time when this history was taken. Her first labor, five years and a half ago, was complicated. The patient stated that the doctor in attendance said that there was a shoulder presentation, that the child was turned and delivered feet first, and that the forceps was used to deliver the after-coming head. From that time onward she had no control of the rectum, and the only way she was able to take care of herself was by being extremely constipated, the bowels never moving except in response to medicine, a dose of which she usually took about once every week. The extent of the injury was exactly like the case last given, excepting that there was union of a thin band of vaginal mucous membrane, which extended outward to the upper margin of the sphincter-ani muscle. There were also two hæmorrhoidal tumors, formed by hyperplasia of the rectal mucous membrane, located at each side of the anus. These hæmorrhoids, that are not uncommon in this injury, were removed one month before the restoration of the lacerated parts was undertaken. The mode of operating was by seizing the tumors in a Péan forceps and making traction sufficient to raise the mucous membrane, then passing the hæmorrhoid-clamp (see Fig. 24) beneath the forceps, and slowly constricting the pedicle by tightening the clamp. A ligature of prepared silk was applied to the pedicle under the clamp. The forceps and clamp were then removed, the tumor clipped off far enough outside of the ligature to prevent its slipping, and the stump touched with carbolic acid. The ligatures came off in less than a week, leaving a very minute spot to heal. She was then submitted to about the same preparatory treatment as in the last case related, and the operation was performed as before described. The diet was gruel and peptonized milk, with beef-tea. On the second day half an ounce of Rochelle salt was given, followed in three hours by an enema of half a pint of a solution of ox-gall, and, one hour later, a large enema of soap-suds. This did not move the bowels; on the following morning half an ounce of castor-oil was given, and in the afternoon the enema repeated as on the previous day; the enema came away, but the bowels did not move. The next day, ordered a mixture composed of a decoction of senna, one ounce to a pint of water, with one ounce of Rochelle salt. Of this, two ounces were given every hour until she had taken three doses. It produced a free evacuation, without causing pain in the wound or doing it any harm. The mixture was repeated in the same way with a like effect, and was again ordered a third time, but, by an oversight of the nurse (the case was in the general hospital), it was not given. Another mistake was made the following day, the nurse giving two drachms in place of two ounces of the medi-

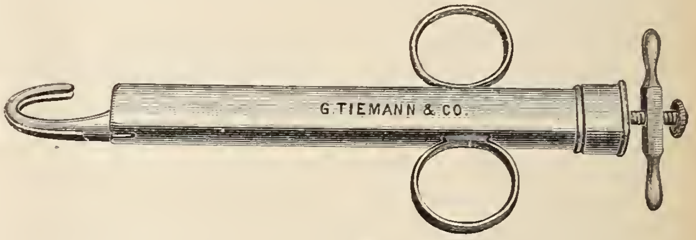


Fig. 24.

cine. On the eighth day after the operation the medicine was given correctly; but, when the bowels were about to move, the nurse, who should have supported the parts, was absent, and the patient got out of bed to the commode, and had a free movement, attended with pain and some bleeding. Up to this time the wound had progressed quite well in healing, but that unfortunate movement of the bowels, unaided by the nurse, tore the ends of the sphincter-ani muscle apart, and spoiled the operation to that extent. On the tenth day the sutures were removed. There was perfect union, excepting the ends of the muscle. The operation was a complete failure, so far as its main object was concerned. She was kept in the hospital for two days more, when it was found that, although her bowels were easily kept regular—a great improvement on her former state—she had very little more control of the rectum than before the operation.

Three months after this she was again persuaded to try to obtain relief, and she was placed under the care of a more competent nurse, who followed directions regarding preparatory treatment, including the manipulation daily of the sphincter ani, and at the end of a week another operation was performed to restore the sphincter. The stretching of the muscle backward with the finger in the rectum as practiced by the nurse was more effectual than in cases in which the rupture is complete. The part of the pelvic floor which was restored by the operation gave some support to the severed ends of the sphincter, so that when traction backward was made the muscle became considerably elongated; and when the second operation was undertaken the parts were sufficiently relaxed to facilitate the necessary manipulations.

The patient, well anæsthetized, was placed in Sims's position, a small speculum introduced into the rectum posteriorly, and traction made backward, while with a strong tenaculum, fixed in the margin of the anus anteriorly, the ends of the muscle and the intervening tissues were brought into view. The end of the muscle of the left side was seized in the tissue forceps and denudation made from the left to the right-side end of the muscle. The vivifying included both ends of the muscle and extended upward on the anterior rectal wall about half an inch. The sutures, three in number, were introduced in the same way as in the first operation. Some trouble was experienced in curving the needle round through the tissues, but with the aid of an assistant, who passed his index-finger into the vagina and everted the rectum in front, all the sutures were accurately introduced.

On the third day after the operation a dose of the senna and salt was given in the morning, and at noon the bowels were moved in a rather novel way. An apparatus constructed upon the principle of that used by Professor Bigelow for evacuating fragments of stone from the bladder was employed to wash out the contents of the rectum.

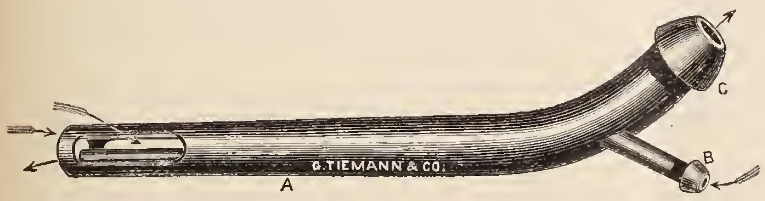


Fig. 25.—A is a hard-rubber rectal tube bifurcated at B. C.; B, which is the supply tube, is attached to a fountain syringe, and *c* is the evacuator, composed of a soft-rubber bulb, D, with an escape tube, E. In other words, it is a large reflux catheter with a rubber bulb in the escape tube for the purpose of facilitating the outflow.

Two nurses use this instrument as follows: One passes the tube into the rectum, carefully making continuous pressure backward to avoid pressing upon the edges of the wound, while the other nurse, closing the escape tube and opening the stop in the fountain syringe, instills the solution of soap and water. When half a pint has been introduced, the supply is cut off and the evacuation tube opened. If the contents of the rectum do not flow out, the bulb is pressed and relaxed after the manner of using a Davidson's syringe. This process is repeated until the bowels are freely evacuated. The bowels were moved in this way until the twelfth day (the sutures were removed on the ninth); after that the bowels were moved daily by the senna and salts. At the end of three weeks the restoration of the muscle was as perfect as could be, and she was dismissed with complete retaining power.

This case illustrates the danger there is of the ends of the sphincter muscle being torn apart when the bowels are moved. A skilled nurse, well used to the management of such cases, can do much to avoid this unfortunate accident, and yet when all care is exercised it will often happen. In order to avoid this, several ways have been tried. Keeping the bowels confined for ten or twelve days was the fashion for a long time. More recently some operators have kept the bowels free by laxatives that rendered the contents fluid and procured an evacuation every day after the second day from the operation. I have tried both, and now prefer the reflux-catheter evacuator when a nurse can be obtained who knows how to use it. When this is not possible, I prefer to render the bowels soluble and to move them every second day—beginning on the third day after the operation.

When union is obtained, excepting of the sphincter muscle, as in the case just related, and a second operation is performed, some operators prefer to begin *de novo*, dividing the united portion and then proceeding as in the primary operation. I much prefer to keep all that has been gained and to restore the sphincter in the way already described. I was first induced to adopt this method in a case that had been twice operated upon before she came to me with the result of restoring all but the sphincter. So much tissue had been removed that I dared not risk a possible complete failure, hence I attempted to restore the sphincter in the way just described, and with success. My second case of this kind was one in which complete laceration occurred in her labor; primary union, without sutures, of the perineal body took place, but not of the sphincter. Since then I have repeatedly operated successfully in such cases of partial failure in my own practice and that of others.

OPERATION FOR RESTORATION OF THE PELVIC FLOOR IN SUBCUTANEOUS LACERATION BETWEEN THE VAGINA AND RECTUM.

This operation is the same as when the laceration involves the skin and mucous membrane also, excepting that the whole of the skin and mucous membrane occupying the position of the perineal body is removed. Before beginning the denudation the tissues in front of the sphincter should be seized between the thumb and finger. This will indicate the extent to which the tissues should be removed. While the parts are thus held in the finger and thumb, or with a tissue forceps, the whole mass should be removed with one sweep of the curved scissors. After this is done, if there is still some loose tissue lying over the muscular structures below and on either side, it should be removed

The sutures are introduced as in the ordinary operation, special care being taken to pass the sutures deep into the muscular tissues, and to use plenty of them. At the present time I see accounts in the journals of restoring the perinæum with one suture. I have seen some of this so-called restoration, and found the results utterly useless.

A Typical Case of Subcutaneous Laceration, belonging to the Second Class described in the Classification.—This patient was the wife of a physician; I give the history as I obtained it from her husband.

The patient was thirty-three years of age, the mother of two children; the first born on March 29, 1880, and lived eleven hours; second born September 9, 1881, now living; and one miscarriage since the operation in February, 1884.

The first labor was tedious, lasting from Friday at 8 a. m. till Monday at 2 p. m.—seventy-eight hours, but accompanied with no after ill-effects of any note. In the second labor, though normal in duration, from its inception until the completion of the first stage it was observed that the presenting head was very low in the pelvis, resting upon the posterior wall of the vagina with the cervix looking toward the hollow of the sacrum, and unevenly dilated, the anterior lip being much thicker than the posterior. As the head descended toward the vulva the recto-vaginal tissues were pushed before the head and extended beyond the vulva on the perinæum. The anterior segment of the cervix, descending in front of the head and tightly grasping it, had to be pushed upward in the interval between the expulsive pains and held until complete extension occurred and the delivery was completed. Nothing of note transpired during the lying-in period of sixteen days, excepting great difficulty in moving the bowels.

Upon taking an upright position, it was found that the protrusion or prolapse which was noticed at the time of delivery was still present, and complaint was made of the feeling that "everything was falling out"; from this time onward defecation could only be accomplished by pushing the protruding mass well back into the vagina. Her subsequent health was bad; rapid loss of flesh and strength followed; nervous prostration, impaired digestion, and loss of appetite supervened, totally incapacitating her for her usual duties. One month after confinement she had a very painful attack of mastitis, which, however, did not go to the stage of suppuration, but further prostrated her, accompanied as it was by aphthæ, ulceration of the cornea, facial neuralgia, etc. These sequelæ, together with over-lactation, carried on for fourteen months, naturally first retarded and then prevented the proper involution of the pelvic organs; and the prolapse of the recto-vaginal wall, dragging down the heavy uterus, caused constant distress, pain, and suffering, physical and mental. Constipation of the most intractable kind now existed, and the bowels could only be evacuated by liquefying their contents with purgatives aided by enemas.

Examination made twelve months after confinement revealed a slight prolapse of the anterior vaginal wall, bladder, and urethra, extensive prolapse of the posterior wall, which caused the rectum to be drawn forward through the ostium, forming a sacculus. The uterus was three and one fourth inches in depth and retroverted. The mucous membrane of the vagina and the integument of the pelvic floor presented no appearance of having been ruptured at any time, but there was not a sign of any muscle or fascia in the center of the space between the vagina and rectum.

May 10, 1883.—(The operation was performed in the way described above. The following is added to the doctor's report by the author.)

After rallying from the anæsthetic, great pain at the seat of the upper stitch was complained of, necessitating the free use of opium to allay it. For eight days the urine was drawn by catheter, the patient being unable to void it at any time when lying in the dorsal position. Twenty-four hours after the operation the bowels were readily moved by a single enema, and for several days acted without resort to any provocative. Two of the sutures were removed on the eighth day and the balance on the tenth day, with perfect union throughout, and three weeks from the day of operation the patient was up and around the room.

From this time on the improvement in every particular has been rapid and uninterrupted, with an entire disappearance of the prolapse, though the uterus remains considerably retroverted, which position it had held for years before the marriage of the patient. At this time, fourteen months after the operation, there has been no return of the former trouble, though she performs all her domestic duties and can exercise without fatigue or distress. At the time of making this report she weighs over twenty pounds heavier than she did one year ago, and to every appearance is in perfect health.

Central Laceration down to the Sphincter Ani, complicated with Temporary Relaxation of all the Muscles of the Pelvic Floor, and Prolapsus of the Recto-vaginal Walls.—The patient was twenty-seven years old, well developed, and in good general health. She had been married four years. She had had two children, the first sixteen months old and the second five months. Her second labor was tedious and difficult; the cause unknown. Two weeks after her last confinement she entered actively upon her household duties, and very soon afterward began to suffer from pelvic tenesmus, which was much aggravated by the erect position. Being of an active disposition, she persisted in attending to her duties until her discomfort became so great that she was obliged to seek relief. When first examined, she said that in standing and walking she was tormented with a feeling of dragging downward in the pelvis, and lately had felt "something protruding from the vagina while in the erect position." Her bowels had usually been regular, but lately she noticed that they moved with difficulty, as if there was some loss of expelling power, and when voluntary efforts were made to evacuate the rectum the recto-vaginal walls protruded.

All these symptoms were much relieved upon lying down. She weaned her child when it was three months old, because she had not much milk and her friends made her believe that her suffering was due to nursing. At the fourth month she menstruated, but, not being any better, she sought advice. The laceration was found to be as already stated. The transversales-perinæi muscles were still attached to the sides of the laceration, and by drawing the parts outward the vagina was distended laterally as well as antero-posteriorly. The distance from the vestibule to the anus was increased by the downward and backward displacement of the posterior portion of the pelvic floor. The posterior rectal wall and the anterior vaginal wall were found lying down upon the sphincter-ani muscle, and when the patient coughed or strained down they protruded a little beyond the line of the anus. There was also commencing prolapsus of the base of the bladder and anterior vaginal wall. By passing a large sound into the rectum it was found that the recto-vaginal walls, immediately above the sphincter-ani muscle, were very thin, indicating that the muscular coat of the vagina had been torn longitudinally, or else its attachment to the muscles of the pelvic floor had been severed; perhaps both injuries had occurred.

The patient was prepared for the operation in the same way as in the case just related. The denuding was made in the usual manner, but was carried upward on each side nearly half an inch above the outline of the scar of the original laceration and about three quarters of an inch broad from without inward. The mucous membrane was also removed upon the vaginal wall up to the point where it came in contact with the anterior vaginal wall; that was made the apex or most prominent point of the vivifying. This was much beyond the limits of the laceration. The object in vivifying the tissues so high up on either side was to secure the ends of the bulbo-cavernosus muscle in the wound in order to reunite them, and for a like reason the vivifying was made high upon the vaginal wall in the hope of uniting its muscular coat to the muscles of the pelvic floor. When the parts to be united were vivified it was found that all that remained of the vaginal wall at that point had been removed, leaving nothing but the rectal wall. This was not owing to having removed too much tissue, but because the muscular coat of the vagina had been destroyed by the original injury. There was free hæmorrhage, especially from the veins in the deep portion of the wound, but the sutures controlled it. The first suture was passed round wholly within the tissues, but the next ones were passed deep in on one side, then out and across in front of the rectum, and finally through the other side, the object being to bring the sides of the wound together in front of the rectum. The fifth and sixth sutures were passed through each side and through the middle coat of the vagina, and the seventh through the sides only.

After tying the sutures and placing marine lint over the wound, an abdominal bandage was applied, and a narrow perineal bandage attached to it and fastened rather firmly. When the patient recovered from the ether she had vomiting, which lasted into the night; she also had sharp pain, which, toward the morning of the following day, was accompanied with severe rectal tenesmus. This prevented her from sleeping, and made her quite weary. The pain and tenesmus were caused, I am sure, by the fact that one or more of the sutures must have been passed through a portion of the rectal wall. I took pains to avoid the rectum, but must have failed to do so altogether. A suppository of morphin. sulph. and ext. belladonnæ, each a fifth of a grain, was used night and morning to relieve the pain, which did not subside wholly until the morning of the fourth day. She took very little nourishment—nothing solid until the fifth day. On the evening of the fourth day she had a dose of pulv. glycyrrhizæ comp., and at noon on the fifth day an enema; it moved the bowels, and from that time they were kept regular by the same means. After the second day the perineal bandage was removed altogether and the lint dressing continued. On the fifth day after the bowels moved there was a slight discharge from the vagina containing traces of pus. She was then ordered a vaginal injection of sulphate of zinc, sixty grains to a quart of warm water, given with the fountain syringe at low pressure, so as not to distend the vagina too much. This was continued once a day until the eighth day, and after that twice a day for another week. She was unable to urinate, and hence the catheter had to be used until the tenth day after the operation. This gave rise to a slight cystitis; it was treated by a teaspoonful of sweet spirits of niter in a small glass of flaxseed-tea every five hours, continued for three days. The sutures were removed on the tenth day, and union appeared to be complete. She was not permitted to leave the bed until the eighteenth day. The vaginal douche of zinc solution was continued up to the next menstrual period, and resumed after it stopped, and continued for two weeks longer.

She was examined two months after the operation, and the result was found to be perfectly good.

Laceration of the Levator-ani Muscle and Laceration in the First Degree in the Median Line of the Pelvic Floor.—The patient was thirty-four years old, and had three children—the eldest ten and the youngest three years of age. The last child was delivered with forceps, and she dates the beginning of her trouble to that time. She gave the symptoms of displacement of the pelvic organs in a marked degree. Standing and walking caused great distress. She was constipated, and had great difficulty in evacuating the bowels. She felt that the rectum had lost its expelling power, and, when she made voluntary efforts during defecation, the vaginal walls protruded.

The laceration in the median line was not more than half way down to the sphincter-ani muscle, but the parts were relaxed, and both vaginal walls prolapsed. The uterus was also retroverted and low down. There was complete separation of the transversalis-perinæi muscle, and the bulbo-cavernosus muscle was either lacerated or else overstretched, so that it was functionally imperfect. The posterior half of the pelvic floor was displaced downward, and the levator-ani muscle did not contract on being stimulated. The touch also showed that the levator had apparently become atrophied. Rest in the recumbent position for two weeks, and support of the pelvic floor and uterus by a tampon in the vagina and a perineal bandage, did not restore the tonicity of the pelvic floor sufficiently to encourage a continuation of that treatment. It was now evident that the levator ani could not be restored. I then decided to operate with the hope of restoring the bulbo-cavernosus and transversalis-perinæi muscles and indirectly uniting them to the sphincter-ani muscle, to compensate, as far as possible, for the loss of the levator.

The operation was the same as that performed for subcutaneous laceration in the median line, excepting that all the tissues were removed down to the sphincter ani, and the denudation was carried high up in the posterior vaginal walls and on each side. Care was taken to support the pelvic floor during the healing process, and the nurse protected the parts with counter-pressure when the bowels moved. Good union was obtained, and at the end of a month it was evident that the muscles had been restored, excepting the levator ani. The loss of this muscle was, to a considerable extent, compensated for by the restoration of the other muscles, but there was still sagging of the posterior part of the pelvic floor. The patient was not permitted to walk or stand much for a month, and the retroverted uterus was kept in place with a pessary. She was greatly relieved, but, at the end of a year, she still was unable to take her full share of active exercise without supporting the parts with a perineal bandage. With the aid of this support her usefulness was nearly restored, but she was not cured completely.

Atrophy and Permanent Paralysis of the Muscles of the Pelvic Floor.—The patient was forty-three years old when first treated; she had had two children, the youngest fifteen years old, and a large number of miscarriages. Her first labor was tedious and instrumental, but she made a fair recovery. When first seen there was a general sagging of the pelvic floor, great distension of the vulva, rectocele and vesicocele, and prolapsus of the uterus. There had been a very slight median laceration of the skin and mucous membrane, and evidently complete subcutaneous laceration of the muscles at the median line. At that time, fourteen years ago, I did not understand the nature of such cases, hence I followed the authorities and treated her in the usual way. She was placed in bed and the pelvic organs kept in position, and, when the parts had apparently improved in nutrition sufficiently to give prospects of healing, the usual operation was performed. The result was apparently all that could be desired when the sutures were removed. So far as the shape and quantity of tissue was concerned, the perineal body was restored, but it proved to be functionally useless. As soon as the patient returned to her usual habits of life the vaginal walls and uterus began to descend and put the central portion of the floor upon the stretch, which caused pain in the scar tissue, so that she suffered more than before the operation. The perineal body became thinned by distension until it was only a band not more than a quarter of an inch thick, stretching across from one side of the distended vulva to the other. Traction upon this band, of scar tissue mostly, caused by the protruding vaginal walls, gave such acute pain upon standing or walking that it was necessary to incise the parts. It is needless to say that she was not improved by the treatment. She passed from under my observation, but I learned that about a year afterward she was again operated upon by another surgeon with no better results. Nearly five years after my treatment she was found among the incurables.

Rigidity of the Muscles of the Pelvic Floor from Inflammatory Sclerosis.—The patient was a delicate blonde, twenty-five years old. She had measles at twelve years of age, and at that time had some inflammation in the region of the pelvic floor which terminated in a discharge of pus from the vagina. Ever since then she has had leucorrhœa. At puberty the menses appeared, and have continued normal. She was married six months before I first saw her. Coitus was found to be impossible, and all efforts to accomplish it caused her great pain. An examination revealed the fact that she had catarrh of the cervix and a vaginitis such as occurs in the strumous diathesis. The muscles of the pelvic floor were rigid and tender to the touch. It was presumed that, when the inflammatory disease of the cervix and vagina was relieved, she might be capable of fulfilling her social functions, but such was not the case. Nitrous-oxide gas was used to produce anæsthesia, and, with a Sims's speculum, the vulva was distended sufficiently to temporarily paralyze the muscles. Some laceration of the mucous membrane at the vulva also occurred, but when this healed the rigidity and tenderness of the pelvic floor were sufficiently relieved to permit the sexual function. About two months afterward the tenderness and rigidity of the muscles returned to a slight extent, but were promptly and permanently relieved by a repetition of the forcible distension with the speculum. Several years have passed since this treatment was employed, but there has been no return of the trouble.

THE USE AND ABUSE OF THE TAMPON IN ABORTION.*

By J. W. KEENE, M. D.,

BUFFALO.

The tampon as a means of arresting hæmorrhage from the cavities of the body or from wounds has been known to the profession for many years. It seems a very natural thing, when blood is escaping with dangerous rapidity, to apply a plug of some sort to stop the leak. There are some things to be guarded against, however. That the bleeding is actually arrested, and not merely diverted into another channel, is of primary importance. Again, there are conditions in which the plug may do mischief. As applied to uterine hæmorrhage, these two elementary principles are so well known that no one will question the correctness of either. A woman with the vagina firmly plugged may bleed to death into the cavity of the uterus. A tampon allowed to remain too long may do harm in various ways. A tampon injudiciously applied may precipitate the catastrophe it was intended to avert. Of this injudicious application of the tampon in cases of threatened abortion it is the purpose of this paper to treat. It is not proposed to present any novel views upon the subject, or to attack the position taken by our text-books, but simply to emphasize the teachings of the books and to invite retrospection of individual practice with a view to ascertain whether we have followed our teachers, or whether, in departing from them, we have acted wisely. This thoughtful retrospect may result in the salvation of valuable lives. It may reveal to us that by our untimely interference noble men and virtuous women have been lost to society. There are no doubt many living to-day who were once threatened abortions. If, through the caution inspired by this paper, this number is increased even by a single unit, the writer will feel that it has not been written in vain.

A generation yet unborn may rise up and call us blessed because we refrained from the use of the tampon in a critical period of their existence.

It is gratifying to note that the authorities, however diverse in their teachings upon other points, are quite unanimous regarding the use of the tampon in abortions. They agree that its use should be limited to two indications: 1. Hæmorrhage compromising the safety of the mother: 2. When the abortion is inevitable. They also agree that the use of the tampon renders abortion probable, if not inevitable. As to symptoms of inevitable abortion, however, there is considerable diversity. Perhaps it will render these points more tangible and the conclusions it is intended to base upon them more convincing, if the views of some of the leading authors are presented in brief.

Leishman (p. 124 *et seq.*) says: "In the first three months the only danger is hæmorrhage, and this not alarming." "If it is so, plug the vagina." "Avoid plugging, if possible, unless all hope of saving the fœtus is gone. It is a source of reflex contraction, and may hasten labor in a hopeful case." He further states that there is no danger of internal hæmorrhage before the sixth month, and considers plugging admissible even in the sixth month. He also advocates plugging in hæmorrhage due to retained placenta.

Playfair (pp. 222, 225 *et seq.*) says: "When the abortion is inevitable, we may plug the vagina for hæmorrhage." "The plug itself is a strong excitant of uterine action." "If we find the os beginning to open—if we are able to insert the finger through it so as to touch the ovum—especially if pains also exist, we are justified in considering the abortion as inevitable."

But he also uses the plug (p. 225) when the os is not dilated.

Tyler Smith (pp. 193, 195 *et seq.*), speaking of the general treatment of abortion, says (p. 193): "It must always be borne in mind that, in diet and medicine, any agents which excite contractions of the uterus may arrest the hæmorrhage for the moment, but with danger of exciting further separation of the ovum." Uterine contractions are also excited by "the linen plug, if it be large enough to irritate the vagina mechanically." "The indications which should make us abandon all hope or intention of saving the ovum are: sudden losses of blood to such an extent as to imperil the life of the mother, or such a continuous drain as seriously to endanger her health, it being also certain, or nearly so, that the ovum is diseased or already dead. If, on examination, we can feel the ovum at the os uteri, or within the cervix uteri within reach of the finger, we may be certain that its expulsion is only a question of time. As a rule, there is little hope of saving the ovum after the rupture of the membranes and the discharge of the liquor amnii. I have, however," he avers, "seen at least one case in which gestation went on to full term after the discharge of the liquor amnii at the fifth month. Fœtid discharges, particularly in early abortions, are a pretty sure sign of the death of the ovum."

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* Read before the Buffalo Obstetrical Society, March 24, 1885.

He recommends plugging for serious hæmorrhage if the os is so tight that the finger can not enter. "If, however, it is necessary to continue the plugging for any length of time, the uterus becomes excited by the mechanical irritation and throws off its contents."

He advocates, in cases of inevitable abortion, the immediate emptying of the uterus by means of the finger, if possible to enter it; if not, to dilate with a tent, which at the same time serves to check hæmorrhage.

Schröder (pp. 151 *et seq.*) says that in certain cases "the hæmorrhage renders the tampon necessary, in consequence of which the cervix is dilated and the remains of the ovum expelled."

"It is an important point in the treatment never to give up the idea of preventing the abortion as long as a part of the ovum has not already passed out of the external os." "Even if the cervix is already dilated, and the ovum felt penetrating into it, the hope of stopping the abortion must not be given up." But, when profuse hæmorrhage threatens the life of the mother, "immediately the tampon should be applied to the vagina."

Schröder evidently takes a more sanguine view of the possibilities of arresting the abortion than Tyler Smith or Playfair. According to the latter, in nearly every case where abortion is imminent it is inevitable.

Cazeaux (p. 574) takes the ground that "abortion is inevitable only when the fœtus has ceased to live or when the separation of the placenta and the rupture of the utero-placental vessels are so extensive that the remaining utero-placental attachments are unequal to the support of the fœtal respiration." This is much the same as saying that abortion only becomes inevitable when the fœtus is dead or about to die. He considers, however, that the escape of the amniotic fluid or a copious hæmorrhage renders abortion inevitable. He advocates the use of the tampon to arrest hæmorrhage if dangerous, and to excite uterine contractions (p. 384) even into the fifth month. He adds: "it should be remembered that its use is almost always followed by abortion, and that it should be had recourse to only when the latter seems to be inevitable."

Verrier says of the tampon as a means of arresting hæmorrhage: "Before tamponing, all other means should have been used. The tampon is a plug stopping the flow and facilitating the formation of coagula, which increase the energy of the contractions and inevitably promote the abortion."

"As long as the ovum is intact there is no danger of the blood filling the uterine cavity; but, if the membranes are ruptured and the fœtus expelled, the tampon can not be used." "The tampon should only be employed when we can not possibly check the abortion, or when the mother's life is in danger from hæmorrhage."

Verrier agrees with the other authors in treating every doubtful case as though the abortion could be arrested. Could we be sure in a given case that the fœtus was dead, the indications would be clearly to empty the uterus as speedily as possible. But the death of the fœtus can only be inferred in most cases. There are no positive signs of fœtal death prior to the fifth month, and even after this time the absence of signs of life is not always proof of death, and from the fourth month onward the danger of the occurrence of abortion rapidly diminishes. Again, as to when hæmorrhage becomes dangerous the books are quite at one. All seem to give assent to what Schröder writes, that hæmorrhage to syncope does not portend death or impaired health to the mother. It is rare that a woman dies of the hæmorrhage of abortion. "It may go on to the highest degree of anæmia, syncope, and pulselessness, but is very seldom followed by death. As a rule, the bleeding is stopped by the syncope." Yet, "the hæmorrhage may sometimes, even in the beginning of abortion, more frequently after the expulsion of the ovum, be so considerable that her life is endangered."

Lusk, in speaking of the treatment of abortion, uses the following language: "In cases of ascertained death of the fœtus and in those of inevitable abortion, all measures calculated to retard the emptying of the uterus should be at once abandoned. In the first four months there are no unequivocal signs of the death of the fœtus. From the middle of pregnancy onward death may be assumed if, after repeated examinations, the absence of the fœtal heart-sounds and fœtal movements is confirmed. The signs of inevitable abortion are profuse hæmorrhage, clots discharged from the uterus, dilatation of the cervix from the descent of the ovum, and a patulous condition of the os externum. Other symptoms consist of persistent uterine contractions, escape of the amniotic fluid, and the presence of the embryo or portions of the ovum in the discharged clots." He admits that the ordinary signs may be delusive, and cites a case reported by Scanzoni where there was profuse hæmorrhage in the third month, with the discharge of a great number of clots. The abortion being apparently inevitable, ergot was used in large doses, a tampon was placed in the vagina for thirty-six hours, a sound was employed to explore the uterus, and finally, as the bleeding persisted for three weeks, a solution of perchloride of iron was injected into the uterus. Eight weeks later the patient quickened and presented the characteristics of pregnancy advanced to the sixth month. Cazeaux, Tyler Smith and others have recorded cases of arrest of the threatened abortion under conditions equally hopeless.

Lusk uses the tampon in cases of rupture of the sac with the os undilated. He implies, if he does not so assert, that the hæmorrhage of abortion is seldom dangerous, and, when it is so, can be controlled better by other means—hot water especially. In the class of cases mentioned he employs it for three ends—to check the bleeding, excite contractions, and give time for an exhausted patient to rally.

Now, out of this mass of authority, sometimes conflicting but generally unanimous, what deductions are to be drawn?

That the tampon is to be used as a last resort, and only where the hæmorrhage is dangerous or the abortion clearly inevitable. We have, moreover, the observation of so experienced an obstetrician as Schröder, that the hæmorrhage of abortion is seldom dangerous and scarcely ever fatal—a view which Lusk seems to share. Of course, in their hospital experience, a physician is always at hand to meet any emergency, while in private practice, and especially in the country, another condition of things prevails. Yet it seems that enough has been said to indicate plainly that the routine practice of plugging, in threatened abortion with but slight hæmorrhage, merely as a precautionary proceeding, has no countenance from the authorities. Practitioners' views as to when hæmorrhage becomes dangerous, or as to when an abortion is inevitable, naturally vary. We have seen that it is upon these points only that the authors cited fail to agree.

Besides the natural bias of the physician's mental make-up—his individual, personal equation—his views will vary as his experience has been large or small. To a beginner, the loss of a slight amount of blood from the uterus of a pregnant woman is fraught with direful forebodings. As his experience widens, hæmorrhage will become dangerous less frequently, abortion will take its place under the inevitable class with much less facility, and the tampon will be employed only to fulfill its two legitimate indications.

The young practitioner is not the only offender in the over-free use of the tampon. His older brother may well look to the well-worn grooves in which his practice moves more or less smoothly to discover whether he, too, is not a devotee of the tenet that the fœtus has no rights which the physician is bound to respect.

In conclusion of this imperfect exposition of a really important subject, let the axiom be laid down that the tampon is legitimately employed only when for good and sufficient reasons it is necessary to terminate gestation.

CASES BEARING UPON CERTAIN MOOTED POINTS IN SYPHILOLOGY.*

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THE EXCISION OF SYPHILITIC CHANCRE.

Case I.—In 1884 a medical gentleman from a neighboring State called at my office to show me a small pimple situated upon the middle portion of the integument of the dorsum of the penis. This lesion was an acuminated papule, not capped by a pustule. The epidermis was unbroken. The color was slightly livid, the size about three sixteenths of an inch at the base. There was no appreciable induration. Indeed, the lesion had no pronounced specific character. It was not painful. There was no inguinal glandular engorgement. The lesion had appeared during the afternoon of the day before I saw it. It was less than twenty-four hours old, and the patient ascribed it to suspicious sexual contact dating back two weeks. The integument of the penis and of the rest of the body was normal, the general health good.

A diagnosis was impossible, although the general appearance of the lesion suggested an accidental papule, and would have justified a favorable prognosis as to syphilis. Yet the patient was solicitous that something should be done.

Cocaine as a local anæsthetic was just coming into use, and I proposed to him excision with the aid of this agent. He gladly accepted the test. I washed the unbroken surface with a powerful solution of bichloride of mercury, one in two and a half, dried it, injected five minims of a four-per-cent. solution of cocaine, caught up the little papule, with a full margin of the ample soft integument around, and with scissors curved on the flat excised an abundant fold, including the lesion and considerable healthy tissue around. Two catgut ligatures upon bleeding veins and three catgut sutures promptly finished the operation and left the wound absolutely dry. The patient had not experienced a particle of pain. On his return home the doctor visited the suspected person, and found that she had a syphilitic eruption.

The wound healed promptly by first intention on the sixty-second day. After three or four days of premonitory fever, no medicine having been taken, the patient observed a mild roseola, which promptly disappeared. Fourteen days later he visited me. He had lost eight pounds in weight. In one groin were two indolent indurated glands, and there was one in the other groin. The site of the excised chancre was soft and perfectly well, showing only a faint linear white scar. There was intense rheumatism, worse at night. There were scabs in the scalp, and the hair was falling. A profuse general papular syphilide covered the entire trunk, the face, and both the palms. Mucous patches abounded in the mouth. The eruption was brilliant and abundant; the patient pallid.

The disease had not been interfered with by any medical treatment, and was a plain instance of a sharp attack of syphilis which had not seemingly been in any degree modified by the excision of the initial lesion, although executed under unusually favorable circumstances.

This case I consider worthy of record because it fulfills the most exacting conditions for testing the question, still under consideration in the profession, as to whether syphilis is or is not already a constitutional disease when the chancre appears.

I do not care to tabulate statistics of the excisions practiced by various operators. The *résumé* of Dr. Morrow,* in December, 1882, covered enough cases to allow generalization, and nothing which I have seen since that date has modified the conclusion he seemed justified in drawing—namely, that the excision of chancre does not attenuate the poison of syphilis or modify the general symptoms.

Berkeley Hill's case,† it appears to me, carries more weight than any other reported before or since. A man tore his frænum during intercourse at 4 A. M. At 3.30 P. M. on the same day—less than twelve hours after the exposure—Hill destroyed the entire raw surface with fuming nitric acid. An eschar separated, and the wound healed. A month later the cicatrix indurated and general syphilis followed.

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* Read before the New York Surgical Society, April 14, 1885.

* "Journal of Cutaneous and Venereal Diseases."

† "Syphilis and Local Contagious Disorders," Hill and Cooper, 1881, p. 76.

My own opinion has been strongly opposed to the belief that local excision of chancre would prevent or modify general syphilis. I have offered the treatment to many, but, as I never felt conscientiously at liberty to promise any advantage as a result of the operation, my proposition has been declined. I would not have operated in this case except to test the cocaine, and because the patient, being a physician, earnestly desired it.

My case is quite analogous in its history and result to one reported by Dr. R. W. Taylor,* where a papule was excised upon the day on which it appeared, with no advantage to the patient, whose general symptoms came out in two weeks. It is on a par with others where early excision was practiced in vain (Mauriac—forty-eight hours).†

I have recently also encountered another case in point (unpublished):

Case II.—X., aged thirty-seven, came to me in January, 1885, stating that in November, 1883, he noticed a small chancre on the penis. This was excised on the first day, and the wound promptly healed. In six weeks he had a general roseola. He is now in his second year, having had numerous eruptions, and been plentifully treated in various ways, including forty-five-grain doses of the iodide of potassium three times a day, and a course of eight weeks at the Hot Springs, during which time ten ounces of blue ointment were rubbed into him. He came to me for some small gummatous tubercles upon the face, and is still under treatment. In this instance surely the excision did not formally modify the intensity of the disease.

A medical friend, who wishes to be nameless, has recently reported to me a case of excision within twenty-four hours of the appearance of the lesion, in which general symptoms (roseola) appeared upon the thirty-second day. In other words, it has not been my good fortune to meet with any case where excision was practiced with a favorable result.

I think it not difficult to understand how apparent success may follow excision when we remember the multiple sources of possible error in diagnosis; and particularly is this the case in Germany, where the best results are alleged (30 to 50 per cent.), for there the advocates of excision are all unicists (notably Auspitz and Kaposi), and are doing their best to return all primary venereal sores into that chaos from which Bassereau and the French school have endeavored to deliver them.

The sources of error to which I refer are:

1. Inflammatory induration of lesions not syphilitic.
2. The small ulcerated gumma of the penis.
3. Non-specific sores which resemble the infecting chancre.
4. Cases of delayed syphilis.

I need not cite instances of the first two classes mentioned above. We are all familiar with the local sore of unknown incubation, with a hardness so nearly typical that we can not ignore its peculiar quality, yet where observation without treatment has proved the absence of any true venereal taint.

The localized gumma commences as a tubercle under the skin, has all the essential hardness, and sometimes the inguinal indolent adenopathy. Its physical characters might deceive any one. It may come upon one in seemingly vigorous health, and be the only lesion present. The patient may have forgotten his old syphilis, the last symptoms of which occurred, perhaps, ten years before. I have had more than one such case. If, now, this individual has had suspicious sexual contact a month before the sore appears, his is very apt to be considered a case of re-infection. These localized gummata (pseudo-chancres) have a marked partiality for occupying the site of the original chancre—but this is not an invariable rule.

Of the third class, a sore resembling but not being a specific ulcer in any poisonous sense, I have seen a number of examples. The most striking is the following. I have no theory upon which to explain it, but can affirm that I have never seen a more typical excoriated induration as a starting-point of syphilis than was this simple inflammatory hardening:

Case III.—A young man came to me about two years ago with a tight foreskin and a contracted prepucial orifice, from which a moderate amount of pus exuded. In the substance of the prepuce, at about its right lateral center, was a hard disc with clearly defined margins, insensitive, giving to the fingers about the feel one would expect to get from a disc of gutta-percha set into the foreskin. The patient could retract the foreskin formerly, and assured me that he had seen an ulcer on the inner surface of the hard spot so long as he could expose it to view, which of late had become impossible. The sore had appeared one month after intercourse. There were two or three indurated glands in each groin.

This boy had consorted only with one female. She would not allow herself to be examined. She shared her favors among a set of young men of whom several had been patients of mine for various disorders not syphilitic. These young men continued to consort with this woman before, during, and after the date of the alleged experience in this case. All remained well excepting one, who acquired mild urethritis from intercourse too near the menstrual epoch. After a local treatment of several weeks I was enabled to retract the foreskin and inspect the lesion. It proved to be a simple livid excoriation upon a sharply defined induration. There had been no true ulcer. The whole physical appearance of the lesion was that of infecting chancre. I concluded that it must be due to mediate contagion.

No internal treatment was ever given. I watched the case several months. The excoriation healed, the induration disappeared, and no symptoms of syphilis followed.

This case is unique in my experience. I believe it to have been an unusual form of simple inflammation, traumatic in origin, due primarily to the tightness of the foreskin. If it was syphilis, it was delayed syphilis.

I have seen a number of other traumatic lesions which might have been mistaken for the starting-point of syphilis, but nothing so seemingly typical as this case. In any event such cases are not common.

DELAYED SYPHILIS.

Case IV.—A gentleman of thirty-seven called upon me in September, 1883. He stated that he had had an ulcer on the penis in August, 1880, which appeared three months after exposure. This was the first venereal symptom he had ever observed. The sore was treated locally. It healed within two weeks. No symptoms followed.

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* "Venereal Diseases," 1883, p. 510.

† "Ann. de derm. et de syph.," July, 1881, p. 523.

In April, 1883, more than two years and a half after the alleged chancre, he fell into a sort of stupor, with fever and rheumatic pains, especially of the feet. After three weeks a spotted eruption came out upon his palms which was pronounced to be syphilitic. Then his throat got sore, ulcers appeared in the mouth, the hair fell out freely, and, having been taking antisyphilitic treatment already for a few weeks, he became alarmed and went to the Hot Springs. There he was treated actively. In July he had some ocular trouble, which improved at the Hot Springs. At my examination I found two characteristic palmar desquamating spots and some mucous patches in the mouth.

This case, of course, allows of a suspicion of a new infection in March, 1883, but the patient, who was absolutely free in giving his history, disclaimed it.

Case V.—X., aged thirty, visited me in November, 1883, stating that five years previously he had a local set of lesions on the penis, for which he received no internal treatment. He remained well one year. Then painful lumps appeared under the scalp, the throat ulcerated, the bones of the nose came away, the middle ear suppurated, rupial eruptions, scaling spots, and papulo-squamous patches came out upon various parts of his body. Then he got heart flutterings, dyspnœa, vertigo, and dyspepsia. The patient denied any venereal malady up to the time of the sores first mentioned above.

Anything so irregular as these two cases, of course, is a matter of suspicion, but the unexpected element in syphilis is so common, and irregularities from the normal type are so constant, that I think it possible to accept them as instances of irregular or delayed syphilis.

These last-described forms of disease, capable of causing error in the diagnosis of syphilitic chancre, are very uncommon; the first two, inflammatory hardening of chancroid and local cutaneous gumma resembling chancre, are very common. Whether it is possible that observers so renowned as the German advocates of the excision theory could be mistaken in their diagnosis in such a large percentage of cases, I can not affirm. It seems improbable, yet it is more improbable that success should follow an excision practiced upon a chancre several days old, with the inguinal glands already involved, as has been alleged, and that failure should occur in cases like those I have narrated at the beginning of this article.

MEDIATE CONTAGION OF CHANCROID.

The mediate contagion of true syphilis is notoriously not impossible, several authentic instances of it being recorded. I do not remember to have seen the report of any case of the mediate contagion of chancroid, and therefore bring forward the following:

Case VI.—X., aged twenty, visited me in August, 1883, with an ulcer upon the penis behind the corona glandis, having a hard base. There was one hard gland in the groin, slightly sensitive. His history was as follows: After two months of continence he had cohabited with a woman who had formerly been syphilitic, but had remained free from symptoms for five years. This woman was the mistress of a friend. On the morning following intercourse the patient noticed an excoriation, which on the third day swelled up and discharged. It was then burned by a physician, whereupon the base hardened and the ulcer began to grow larger. I saw it on the twentieth day, when it had all the appearance of chancroid with an inflamed base.

Five days after exposure the patient had the woman examined. She was declared sound, except as to leucorrhœa. I pronounced the sore a probable chancroid, and urged a further search as to cause. The search developed the following facts: On the night before the day on which my patient had cohabited with the woman she had had intercourse with another person, and had remained partly intoxicated and lying quiet thereafter until my patient had cohabited with her. The man in question was followed up, and found to have a well-marked chancroid under treatment. This sore he possessed at the date of intercourse with the woman.

My patient's ulcer healed after six weeks. No syphilis followed. The woman did not acquire any sore, nor did the man who habitually lived with her.

THE HUTCHINSONIAN TEETH.

The test teeth of inherited syphilis are the two central permanent incisors in the upper jaw. They are known as the Hutchinsonian teeth, after the distinguished Englishman who first accurately described them.*

The broad, rather shallow groove on the cutting surface is the feature which distinguishes them. These teeth are often convergent or divergent, but may be straight, and they are often narrowed on the cutting edge, but not necessarily so.

I have here two casts of the upper set of teeth, showing the characters usually believed to indicate inherited syphilitic disease. (Fig. 1 and Fig. 2.) I present with them Hutchinson's original plate and photograph of the woman whose teeth are pictured in Fig. 2, showing the macular syphilide which was upon her when I first saw her. The patient whose teeth are represented in Fig. 1 had inherited syphilis. The patient possessing the teeth represented in Fig. 2 showed no sign of ever having had inherited disease, and came to me with fully marked secondary syphilis, which she had acquired from her husband. I think the case is interesting as illustrating the fact that teeth very closely if not identically resembling the test teeth of Hutchinson may

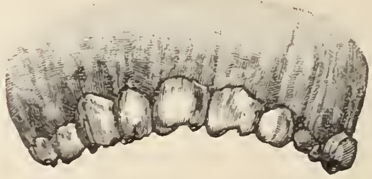

Fig. 1.

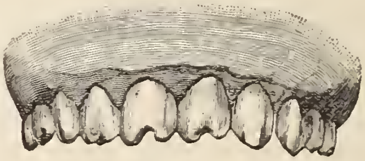

Fig. 2.

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* "Illustrations of Clinical Surgery," London, 1876, Fasciculus III, Plate XI.

be possessed by a patient who has not inherited the disease. The cases are briefly as follows:

CASE VII.—(To this case belong the teeth of Fig. 1. One of the outer incisors was crowded out of line by the contraction of the jaw, and appeared behind the alveolar border. It is not represented in the cast, which was taken by the husband of the patient, a plasterer by trade.) In 1878 I first saw this patient, fourteen years old, with a large gumma in the right axilla, then two years old. Her mother, who brought her, had an old syphilitic ulcer on the leg, at the bottom of which was a necrosed portion of the tibia. The child had also a large node on the left tibia. She had strabismus and bad headaches, with some scabs in the scalp. When five weeks old an eruption came out over the entire body, worse on the feet, and she has suffered from mottled, livid scaling spots and rheumatic pains ever since. Her treatment had been more or less constant since birth. The child was plainly a victim of inherited disease. The mother was frankly syphilitic, and had miscarried once and produced two dead children before the birth of this child. The father was also syphilitic (ulcers and nodes).

This patient had a variety of disorders, among which was sudden blindness for half an hour at a time; but she recovered of everything, even of her strabismus, under treatment; married at the age of seventeen, produced a healthy child, then took to drink, developed a well-marked tubercular syphilide on the arms, with ulcers on the scalp; miscarried five times in succession, and finally died.

CASE VIII.—(To this case belong the teeth of Fig. 2.) Mrs. X., aged thirty-one, visited me in February, 1884, showing flat, mottled patches of a recent papulo-erythematous syphilide, covering the trunk and extremities, with a few spots on the face. She related that her husband had a sore upon his penis, and had given her a similar ulcer upon the vulva some weeks previously. The sore was well at the date of her visit to me. She showed also mucous patches in the mouth, indurated glands, falling of the hair, etc., and the teeth as seen in the cast.

Her father and mother are alive and well, she says. She herself has always been healthy. She has no scars, no syphilitic countenance, no history and no evidence of any inherited disease. She is robust and well formed, has had five healthy children, and laughs at the idea of having suffered from any inherited malady. Actually she has recent syphilis. In March, 1885, one year later, she returned, still under treatment at the hands of her own physician, and presenting well-marked clusters of tuberculo squamous syphilide in patches upon various parts of the body. The photograph shows the appearance of the first eruption on the chest.

THE ADMINISTRATION OF THE IODIDE OF POTASSIUM IN MILK.

I wish to add a word in favor of milk as a most suitable vehicle in which to administer the iodide of potassium, notably in cases where large quantities of the drug have to be used. Several years ago a patient first called my attention to the fact that he could take his dose of iodide of potassium in milk without minding the taste, which otherwise was very offensive to him.

I adopted the suggestion at once, and found it of great service in many cases. Ten grains or more of the iodide in a gill of milk (cold) makes a very palatable drink, and imparts only a mild metallic taste to the fluid, which most patients find not at all disagreeable. I have used this method in a routine way with the happiest result in several instances in those desperate cases where some portion of the nervous system gives out, food is unpalatable or can not be taken, and the indication is, disregarding all else, to push the iodide rapidly to the point of tolerance. In such a case no time can be lost, and a fixed routine system which shall accomplish all the needs of nourishment as well as medication is a very valuable factor in the treatment. I will cite one illustrative case out of a number in which I have used the method:

CASE IX.—In the summer of 1883 a gentleman was referred to me from another city with precocious malignant syphilis (rupial in type) and a feeble stomach. He could not digest the iodides well, as they deranged his stomach and caused disfiguring acne, a twenty-grain dose of the iodide of sodium being too much for him.

His symptoms gradually disappeared, he returned home, and for about a year did more or less well and badly until his physician, one of the most thoroughly competent gentlemen in the profession, concluded that the antisyphilitic treatment was keeping his stomach so constantly deranged that he was suffering more from treatment than the disease. He therefore omitted medication for a time, and again sent the patient to New York to see me.

He came to the city and remained in his hotel two days, not calling upon me and feeling rather better, but being much excited at night and sleepless. His only active symptom was one ulcer on the arm. On a given day, at noon, while lying quietly on a lounge in his room, he got up to cross the floor. Having accomplished his object upon the other side of the room, he turned to go back, but, when half way across the floor, without warning or pain, he suddenly fell in a heap upon the floor (his age was thirty-six), without loss of consciousness, and found himself unable to get up or to speak. I saw him shortly afterward, and found him totally paralyzed upon the right side and aphasic. He had no heart disease of any kind, and the only premonition of the attack had been a certain recurring numbness of the fingers and toes of the *left* side during each of several days before the attack. I procured a day and a night nurse, and ordered quiet and the cessation of all habitual food, drink, and medicine, and instructed the nurses to give him each hour, night and day, ten grains of the iodide of potassium in a claret-glass of milk.

He took it all, nearly three quarts of milk and 240 grains of the iodide of potassium, in the first twenty-four hours. A laxative was the only other thing allowed. I increased the daily dose two drachms each second day, and after a week employed also inunctions of mercurial ointment, which I pushed rapidly until the gums were mildly touched.

During the second week his daily dose reached an ounce and a half of the iodide. He took no food whatever except the milk in which his medicine was given, and he took an occasional laxative. His tongue cleared, the acne disappeared from his face, and early in the second week he began to move his arm and leg spontaneously. Electricity and massage were now added, and in one month from the date of the attack he left the city, walking with a cane and dragging his foot slightly, but talking about as naturally as ever and looking exceedingly well. The daily dose was then ten drachms taken in four separate portions, for as he got better I gave up the hourly medication, and allowed him to eat.

The patient is still under observation, doing well, taking ten drachms of the iodide a day, which he has been continuing for several months, and promising nearly, if not quite, a perfect recovery.

1 PARK AVENUE, NEW YORK, *April 14, 1885.*

HEREDITARY CHOREA.*

By CLARENCE KING, M. D.,
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Chorea is a term applied to a functional disease of the nervous system characterized by "an irregular convulsive action of the voluntary muscles of a clonic kind, especially of the face and extremities, these movements being either entirely withdrawn from the control of volition, or but little under the direction of the will." The hereditary type is a quite rare form of the disease, and has received little or no attention from authors on medical subjects, especially those of an early period. But the uniformly grave nature of the disease and its marked tendency to direct transmission from parent to child seem to demand a more thorough and extended study of its pathology and mode of treatment than it has yet received.

The causes giving rise to its development are yet clouded in obscurity. Probably they were the same, originally, as those which are followed by the ordinary St. Vitus's dance, modified, perhaps, by a peculiar disposition of the individual, by some pre-existing malady, or by some unexplainable intellectual influence, self-indulgence, bad education, and the like. And it is even possible that marriages between persons of a weak or deranged nervous organization, continued for several successive generations, may so intensify the original defects as to result in the disease under consideration. And it is in this way that it may first make its appearance, and, finding like soil in the offspring, favored, perhaps, by another improper marriage, the hereditary tendency is developed. The difficulties of ascertaining the original causes of this disease will not be ignored if we consider that it is not until nearly the thirtieth year that it shows itself in the offspring, thus satisfactorily demonstrating its hereditary character. To trace back at that late day the course of the parental disease and seek out its blind or hidden causes is a task of no trivial proportions.

The tendency to heredity, when it has become fully developed, presents a sad, yet, to the medical man, interesting theme for study. It may be that only one child of a family of several with a parent thus affected will fall a victim to the disease, but that child's children may all have hereditary chorea when they arrive at a proper age. In this way it may pass through several generations, until, at length, it may disappear entirely, either from one generation escaping it, or from the last generation dying childless. And it appears, from my own research and from what authority I can find on the subject (with the exception of the letter of Dr. Waters published by Professor Dunglison),† that when an individual of an affected family escapes, his children and descendants are forever free from chorea, unless developed anew as an original disease. Dr. Huntington, of Long Island, affirms that in the choreic families observed by him, with his father and grandfather, also physicians, it was never known to overleap a generation to appear in the next. There has come to my notice a family in which this disease has prevailed for at least four generations, and from which most of the observations of my own are drawn. The first patient known to have had hereditary chorea was the great-grandfather of the patients now living. To him were born ten children, four of whom became sufferers from this disease. Concerning three of this number I am unable to obtain any history further than that they each had children who finally developed hereditary chorea. Of the fourth child the history is complete. He had nine children, and only one of the number had the disease. Of the eight who escaped, each has had children, and, although they have all reached the age at which the symptoms usually appear, none of them show any indications of a choreic character. But to the unfortunate one of this family who had the disease five children were born, three of whom were attacked and are the patients now suffering from it. These three patients have no children, and, in all probability, upon their death the disease will become exterminated, at least so far as this branch of the original family is concerned. The two other children are married, but their progeny have not reached the age at which hereditary chorea is developed.

Of the pathology of the disease little is known. From the similarity of the hereditary form to the ordinary non-hereditary variety as it appears in children, it seems to me that we are justified in considering the pathology of the hereditary as nearly identical with that of the non-hereditary form. But the pathology of the ordinary form is not so clearly understood by students of morbid anatomy as we could wish; yet, from the unusual interest manifested by investigators in this branch of medical science, we are led to the conclusion that this field will not remain long unexplored.

I have been unable to obtain any record of a post-mortem investigation of the hereditary form, but consider that the lesions found would not differ essentially from those of ordinary chorea. Numerous examinations have been made of this latter form, and, until the contrary is shown, we had better consider the pathological conditions as the same. Of the nature of the disease we are unable to give any statements further than that it is a functional disorder of the nervous system; but whether of the brain, or spinal marrow, or both, we do not know. On this pathologists do not agree. Dissection throws no light on the subject; the most careful scrutiny is usually rewarded with only negative results; but, in other cases, various lesions have been found, although, from their infrequency, we can hardly call them choreic. As hereditary chorea is a disease but seldom met with, it affords few opportunities to the practitioner for study and investigation. As the patients affected live for a long period of years unless death occurs from some other cause, and as their latter days are attended by disturbances of the nutritive, the respiratory, and the circulatory systems, and by a low form of mental derangement or insanity (which might be considered a proof of its cerebral character), the difficulties of ascertaining its primary pathological lesions seem almost insurmountable.

If we consider for a moment the hereditary character o this disease, we are led to the conclusion that its diagnosis is attended with no serious difficulty. Such, indeed, is the case. When an individual of adult life, one or both of whose parents are known to have suffered from this disease, begins, without any assignable cause, to develop visible clonic twitchings of certain muscles which increase in severity from month to month, we may be almost certain that they are the manifestations of hereditary chorea. Indeed, in such a case, the patient would generally make a correct diagnosis before his physician or friends were aware of its existence. But in other cases, as in those instances where the parental history can not be obtained, the diagnosis is more difficult and may call for considerable delay before it can be made with certainty. The disease, perhaps, with which hereditary chorea is the most liable to become confounded is progressive locomotor ataxia; but, by the exercise of ordinary judgment in considering its history and symptoms in differentiation from those of chorea, a mistake of this kind will not readily be made.

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* A Thesis to which was accorded an "Honorable Mention" at the Thirty-ninth Annual Commencement of the Medical Department of the University of Buffalo.

† Dunglison's "Practice," 3d ed., vol. ii, p. 216. See, also, von Ziemssen's "Cyclop.," vol. xiv, p. 423.

The clinical history of hereditary chorea presents many interesting features, some of them differing widely from its more common form. It is a disease pre-eminently of adult life. Its first indications are developed, in the majority of cases, between the twenty-fifth and the thirty-fifth year; and cases occurring as late in life as the fiftieth year must be extremely rare, if they ever occur. In the family whose history I have been enabled to obtain, three of the children of the first generation mentioned as being known to have had the disease showed signs of its commencement at about the thirtieth year; the other one is reputed to have shown no indication of it until his fiftieth year; yet I am inclined to believe that he had it, but slightly developed, for years before that age.

If there are any premonitory symptoms to this disease they must be vague and ill-defined. The first indications are the twitchings of the muscles of the arms or face, at first so slight as not to attract the attention of the patient's friends; and these may continue for months unnoticed by any one except the sufferer himself.

It may be that only one muscle or group of muscles is the first attacked, and, its spasm being so feebly marked and so much under the control of the will, it may be considered by those unacquainted with its nature as a habit only, unconsciously acquired. Gradually these spasms become more and more severe, and, extending to other muscles of the face and extremities, draw these parts into all manner of ludicrous and ungainly distortions. But in all stages of the disease these spasms, whether light or severe, cease entirely, as in the ordinary form of chorea, during the period of sleep.

At this time the bowels may be more or less constipated, yet the evacuations show no marked deviation from the normal appearance. The appetite is good, and the process of digestion seems to be carried on in a healthy and perfect manner. The patient generally retains his usual flesh; but if in any case there is a loss in weight it is slow and gradual and not well marked. The pulse presents no perceptible variation from the healthy standard, and, so far as I am ena bled to judge, is normal in character. There is no pain in the head complained of, no vertigo, nothing at all indicating any disturbance of the cerebral organs. The mind, as yet, appears clear on every subject, although the patient, recognizing the character of his disease and the future doom that surely awaits him, is generally sad and downcast, and, in consequence, seeks seclusion. It is during this stage of the disease that the patient may attempt the destruction of his own life.

A lady, afflicted with hereditary chorea, who came under the observation of the writer, has twice, through shame and mortification, attempted suicide. And it would appear that this is by no means an unusual circumstance during the early course of the disease.

This stage of mental depression lasts for a longer or shorter period. Sooner or later it is followed by a gradual weakening of the mental powers, which finally becomes so marked as to incapacitate the patient from pursuing his ordinary business affairs. And I have noticed in the three cases under my observation, at least, that, in direct proportion as the mental disease progresses, the aversion to society diminishes. By the weakening of the mind the sense of shame and pride is destroyed, and the patient then, no longer restrained by these, does not hesitate to go to any place his fancy may suggest. Perhaps, considering the loathsome condition to which this disease finally brings its suffering victim, it is a providential design of the All-Wise One to so blunt his susceptibilities as to enable him the better to bear his infirmities.

As the disease progresses, the twitchings of the muscles slowly but gradually increase. At a quite early period the muscles of the larynx and tongue become affected, producing more or less difficulty in the articulation of speech. The tone of the voice is changed and varied, differing greatly, perhaps, in the different portions of a single sentence. The words are spoken by a jerking effort, from one to half a dozen or more at a time, after which the patient is obliged to stop and wait until he can again control the vocal cords. The difficulty of speech gradually increases from its earliest manifestations till death, being so severe in the latter stages that it is only with the greatest effort that even the patient's friends can understand his conversation. The respiration is interfered with in the same manner as the voice, being broken and irregular; but as we have already noticed that the spasms of the muscles cease during sleep, so, owing to their quietude, is the breathing at these times more smooth and regular.

In the latter course of the disease the twitchings of the muscles become so severe that locomotion is accomplished only with great difficulty. The patient's attempts at walking resemble, to a superficial observer, those of a drunken man, and it is by no means an uncommon circumstance for him to be stopped by an officer, mistaking his disease for intoxication. This difficulty of walking, like the others attending this disease, grows worse year by year. Finally, it becomes so great as to make it difficult for the patient to walk without falling. A peculiar gait is developed, almost characteristic of the disease, which, although interesting to study, is difficult to describe. The patient takes three or four steps in quick succession, moving the limbs forward in an awkward and peculiar manner, and then suddenly stops. The knees are pressed back, the body slightly bent forward, and in this position the patient will stand for some moments, the muscles of his whole body jerking incessantly with excited action. He then throws his body forward as if about to fall on his face, but, instead of falling, takes a step or two, thereby gaining his balance, when he can walk for a short distance in a comparatively natural manner. But his gait becomes faster at each successive step, and finally, with three or four quick steps, he again suddenly stops, and goes through all the various muscular movements and distortions as before. In this way he manages to travel from place to place until at length locomotion becomes impossible, and he is obliged to take to his bed. At about the same time deglutition becomes difficult, owing to the excessive impairment of the muscles employed in swallowing, and, in consequence, the patient rapidly loses strength and flesh. The blood as it passes through the lungs is poorly aërated, owing to the imperfect and irregular respiration, and this is undoubtedly another cause which tends to reduce the strength of the patient rapidly after the muscles of the larynx become seriously affected. The mind, which has been progressively failing since it was first attacked, now differs but little from that of an idiot. The whole care of the body, from this time until death, falls to the lot of his friends and those who nurse him. In this way he may live for some time, but grows weaker and more emaciated, week after week, until death finally comes to his relief.

The prognosis of this disease is extremely unfavorable. When it has once become fully developed it clings to its victim with unrelenting tenacity till death. The redeeming feature of not a single instance is on record (so far as I can find) in which this disease has ceased after it has once appeared; and any reputed cases of cure, unless substantiated by the most positive evidence, I should regard with suspicion. Yet I would not say that marked improvement or recovery is impossible after the disease has become developed, but, if it ever does occur, it must be much more rare than in the latter stages of phthisis or carcinoma; and hence, considering the infrequency of the disease, recovery is practically impossible. The course of the disease generally extends over a period of from twenty to thirty years, the patient rarely dying, unless from some other cause, before the fiftieth or fifty-second year of life. The mode of dying is by asthenia or the gradual failure of nutrition.

Since writing the foregoing, I have learned that a brother of the three patients I have cited has begun to show evidences of chorea. This gentleman, when a child, had the ordinary form of chorea, from which, however, he made a perfect recovery. He is now about thirty-five years of age, has led an active life, and, although recognizing the possibility of an attack of the hereditary type, has never given himself undue uneasiness about it. But when these latter manifestations came on it so frightened him that he has laid aside his former business engagements, and is now living in comparative idleness. He hopes by absolute rest to ward off the disease for the present, knowing well that at his age the tendency to its development rapidly diminishes with each successive year. But this course I should regard as a very injudicious procedure, tending rather to favor its development than to ward it off. There can be no doubt that the anxieties and perplexities of a business life might hasten the development of this disease in one already predisposed, but, to my mind, it is also certain that, if despondency and fear obtained entire control of a person thus situated, the disease would likewise be more rapidly developed. An individual known to be of a choreic family should have some light employment not giving rise to fatigue, either of body or mind, and the more imperative is this at about the usual age for the development of the disease. A person whose mind is unoccupied by thoughts of the world without, with an apprehension of the fate which was threatening him, would very likely suffer from loss of sleep, of appetite, and finally of health in general, and become a fit subject for heredity to work its baleful influence upon.

The therapeutic indications would be simple but by no means unimportant. Rest at night should be secured by means of opiates. The bowels should be kept regular by mild laxatives. If the patient is anæmic, tonics should be administered—quinine and iron. Strychnine or arsenic as a nerve-tonic should be given, continued for a long time, and, in a certain proportion of cases, improvement would undoubtedly follow. But I would lay particular stress on the hygiene and surroundings of the patient. He should be in a healthy locality, have plenty of wholesome diet and at regular hours, take moderate exercise in the open air daily, and at night have at least eight hours' undisturbed sleep.

But, after the disease has become fully developed, there is little or nothing we can do that will give any benefit to the patient. The free use of tonics will probably give as much benefit as anything. Electricity has been employed as a spinal tonic, but without favorable results. In the last stage we should nourish the patient as best we can, perhaps giving cod-liver oil, and keep him as quiet as possible, treating on general principles other indications as they arise.

THE PEROXIDE OF HYDROGEN.*

By WILLIAM A. DAYTON, M.D.,

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Recent experience in the use of the peroxide of hydrogen in diseases of the middle ear (notes on which have been prepared for the "Archives of Otology") affords me an opportunity to accede to the request, viz., that I extend something of interest or importance regarding pulmonary consumption.

Dr. B. W. Richardson, of London, has long since written of the physiological effects of this combination; and, still later, Hensel, the eminent German chemist, instituted some remarkable experiments with it, which prove beyond doubt its germicidal power.

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* Remarks offered in the discussion, at the Clinical Society of the New York Post-Graduate Medical School and Hospital, on the subject of "Phthisis," February 7, 1885.

In October last, Mr. Paul Treutler (late chemist at Berlin, now of this city) translated, with the writer, Hensel's work on the peroxide of hydrogen. The scientific spirit in which the subject was treated, together with Hensel's convincing arguments, led to personal investigation. The therapeutic value of this hydrogen compound in pulmonary phthisis, *per se*, may be introduced by other contributors to the discussion at hand; therefore my observations are limited to its application in diseases of the *nose, ear, and throat*, complicated with tubercular infiltration of the lungs.

At my clinics and in private practice alike I have treated certain diseases of the nose, ear, and throat, until the patients were discharged without having derived the slightest benefit, and notwithstanding the most approved treatment.

Among the most intractable cases, in which one or all of the above-named parts were implicated, it is remarkable that the subjects were victims of pulmonary tuberculosis.

Inspired with confidence by the writings of Dr. Richardson, Mr. Hensel, and Dr. C. E. Shelly (the latter contributing to the "Practitioner" of March, 1884), I began, in October last, to employ the peroxide of hydrogen, not only as a topical application, but also through the circulation. From the earliest trial I began to realize all that had been claimed for it, and more too.

The following are my notes on the first case in which I employed the hydrogen solution:

Mr. ——, aged twenty-four, unmarried; family history of phthisis pulmonalis. Was obliged to abandon occupation as agent for an insurance company in consequence of extreme debility. Patient examined by a number of physicians, said to have advanced phthisis, and had visited health resorts without benefit.

Came under observation for "nasal catarrh and buzzing in the ears" on November 7, 1884, stating that all previous treatment for the same, at the offices of specialists and also at clinics, had been unsuccessful.

The mucous membrane covering the middle and inferior turbinated bones was much thickened, the faucial orifices of the Eustachian tubes were swollen (presenting the appearance to the writer of a congested os uteri), there were vegetations in the pharyngeal vault, while below these the pale back wall of the pharynx was studded with enlarged follicles. Both drumheads were sunken; light spots faint; C tuning-fork heard twice as long and twice as loud through the bone; with watch, H. D. R. $= \frac{2}{40}$, H. D. L. $= \frac{1}{40}$. Hearing for ordinary conversation about two feet.

After a careful inspection of these parts, I was about to begin the familiar treatment by spray, etc., when my patient very politely, but emphatically, declined to submit to "any more of that business," insisting that such measures could be of no avail. For an instant I wavered between expressing my indignation and an appeal to his reason; then decided to test the exhilarating effects of peroxide of hydrogen as an expedient as well as an experiment. It proved to be a happy dispensation, as the following details show:

I prescribed six ounces of a two-per-cent. solution of the peroxide, to be taken in tablespoonful doses, three times daily. The patient was also directed to use a weak solution of salt in warm water in the nostrils, morning and night.

Contrary to instructions, my skeptical client did not return until "his medicine was all used up"; but he did come at the end of nine days with, as he expressed it, "a soul full of hope." He came to tell me that his appetite was improved, his bowels were more regular, his sleep was more refreshing, his "cough was looser," and the expectoration was much lessened. His appearance tended to corroborate his statements. I had won his confidence by what he called "the water cure," and he cheerfully consented to any future plan of treatment that I chose to adopt. Accordingly, I scraped out the vegetations in the vault of his pharynx with a curette which I have devised for that purpose, then applied a mixture of ergotin, Monsel's solution, and glycerin to the part, and ordered a repetition of the peroxide.

One week later I removed two gelatinous masses, situated at the posterior extremity of both inferior turbinated bones, with a Jarvis's snare; this had the effect of restoring free nasal respiration.

The patient was seen twice each week until January 3, 1885, and during that period, about eight weeks, he continued to take the peroxide regularly three times daily. The local treatment consisted in spraying the naso-pharynx with a two-per-cent. solution of the peroxide, and the insufflation of zinc oxide and quinine tannate, triturated with starch.

Previous to this treatment, inflations of the middle ear were very unsatisfactory; but during the second week a vapor of camphor and iodine passed freely through a Eustachian catheter into the tympanic cavities. The condition of this patient when he left me for the purpose of traveling was certainly flattering. He had gained about fifteen pounds in weight, the cough was less annoying, the naso-pharynx was in good condition, the husky voice had disappeared, the tinnitus aurium was not complained of, while the hearing distance for the watch had increased as follows: H. D. R. $= \frac{10}{40}$, H. D. L. $= \frac{6}{40}$.

On January 12th a case with the following history came under observation:

Mrs. Dorothy W., aged thirty-two, eight and a half months pregnant. "Mother died of consumption." Patient, under the care of a fellow-practitioner, said to be "full of tubercular disease." For two days and two nights she had been suffering "untold agony" from an acute inflammation of her left middle ear. Everything but leeches and hot water had been used for her relief, and, of course, without any diminution of pain.

When this patient came into my office she was in a state of extreme nervous exhaustion, and, while I was making an otoscopic examination, she told me between her cries of pain that "she felt as if her child was being born through her ear." I never saw a drum membrane so distended with pus as this one was. The "throbbing" was not only subjective, but objective. The sight of my paracentesis knife was the signal for objections to interference and cries of "O ——! I can't let you do that!" Two instillations of cocaine hydrochlorate (four-per-cent. solution) so affected the part that, in the course of three minutes, the woman wanted to go home. To quote her own language, "This is the first moment of peace I've had in forty-eight hours."

However, I urged the necessity for an incision and gained an unwilling consent. Slowly I passed the knife through the lower anterior segment of the tympanic membrane, making an incision about one eighth of an inch in length; and, as I sat watching the pus oozing out into the external auditory canal, the patient said: "Please, doctor, hurry up and cut it; I'm getting awfully nervous." After a gentle inflation of the diseased ear with a catheter, I poured into the canal a twelve-per-cent. solution of peroxide, wiped out the coagulum that formed, then repeated the instillations until the parts were thoroughly cleansed. During the following week inflations were practiced daily, the ear was kept clean with an eight-per-cent. solution of peroxide, and a two-per-cent. solution of the same was exhibited in tablespoonful doses. On the eighth day after operation the drum-head had healed; come what may, there had been no sign of a discharge since.

This patient gave birth to a healthy-looking child on February 2d. This was her fifth labor, and she tells me that she "never felt better in her life," that "her breast-milk is richer and more abundant than ever before," and her confidence in the virtue of "her medicine" (peroxide) is so great that she continues to take it regularly.

The difficulty of checking *chronic* suppurative inflammation of the middle ear in consumptives is well known to all aurists. Without stopping to cite cases, let me say that I have used a twelve-per-cent. solution of the peroxide in the ears of such sufferers, together with the internal administration of a two-per-cent. solution of the same, with most gratifying results.

In ozæna, which is frequently associated with the "tubercular diathesis," sprays of this solution of varying strength have proved more efficacious than any application with which I am acquainted.

Again, in two cases of tubercular laryngitis which I have lately been treating, spraying with a three-per-cent. solution of the peroxide afforded positive relief. The peroxide not only destroys pus, cell-life, etc., but it is, to a certain extent, a local anæsthetic. . . .

A word as to the internal administration of the peroxide. Occasionally patients have complained that even a two-per-cent. dilution induced an irritation in the fauces and pharynx when swallowed, but this unpleasant effect can, I think, be obviated by administering the preparation in milk. . . .

That the peroxide of hydrogen has a future among our most trusted resources in the materia medica I have no doubt. It is a potent deodorizer, it is an eligible antiseptic (in [?] and *out* of the circulation), and it is an effective remedy in a large class of diseases in which mucous-membrane tissue is chiefly involved.

For cleansing purposes it has no equal in any known agent. In operations on mucous membrane where the secretions and hæmorrhage often embarrass the surgeon, the use of a strong solution of the peroxide (twelve per cent.) facilitates progress by decolorizing the blood and by its cleansing, styptic properties. . . .

The foregoing lacks, very probably, the scientific detail necessary to prove the *positive* value of the hydrogen peroxide, but I present these hurried notes on *its observed effects*, faithfully yet unassumingly, in the hope that others will take up the thread of investigation, and in the belief that it is really "a good thing."

In the treatment of phthisis and all its complications there can be no royal road. Cod-liver oil, the preparations of iron, nutritious diet, and pure air are not to be replaced by novelties; but, when it is considered how important is the demand for oxygen in these cases, may we not hope to find a reliable adjunct to established principles of practice in the peroxide of hydrogen?

The peroxide of hydrogen was discovered by M. Thénaud in 1818. It is, therefore, not a new drug, and I am inclined to believe what the celebrated Dr. Rush, of Philadelphia, said many years ago, viz.:

"Perhaps all the discoveries of future ages will consist more in a new application of established principles, and in new modes of exhibiting old medicines, than in the discovery of new theories or of new articles of the materia medica."

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INABILITY TO GARGLE AND INCO-ORDINATE BACKWARD MOVEMENTS,

ADDITIONAL SIGNS OF CEREBRAL AND POSTERIOR SPINAL SCLEROSIS.

Note by C. H. HUGHES, M. D.,
ST. LOUIS.

Impaired (minus) states of the reflexes and inco-ordinate movements are the most special and distinctive symptomatic evidences of cerebral and posterior spinal sclerosis. One after another of the normal reflex functions has been noticed and described as impaired or abolished, in tabes dorsalis especially, until but little remains in this direction to be described. The knee phenomenon or quadriceps extensor femoris lost reflex, the lost or impaired cremasteric reflex, the damaged reflexes apparent in the pharyngeal and laryngeal crises, have all been sufficiently noted. The rectal and visceral reflex impairment existing in these cases has been more or less obscured by the not uncommon enteric, hepatic, and vesical torpidity.

Difficulty of swallowing in advanced stages of ascending posterior spinal sclerosis, and in descending cerebro-spinal sclerosis, is not uncommon, but the *inability to gargle when the power has been formerly possessed, in recent cases, has not been, in the writer's experience, an early symptom.*

The present case is that of a gentleman in business for himself in the conduct of a drug-mill. He is aged forty-eight and married, and has children.

His symptoms appeared—with embarrassed intellection, finding himself confused and making mistakes at figures, vertigo, clumsy walk, and embarrassed speech—about one year ago. The pupillary reflex is now impaired and the pupils are consequently contracted. *The tendon reflex is lost in the left leg*, and, while improvement has occurred in all of his symptoms *except that the power to gargle liquids is lost*, the leg pains have subsided under galvanism and static electricity, and the melancholia which troubled the patient has also gone. This patient had, about three years ago, considerable business annoyance, and, upon attempting to jump down to the ground from a door-step, three feet above it—a thing he had done very often for years—stumbled and fell, without vertigo or the slightest loss of consciousness. Hyperæmia cerebri, as in the pre-ataxic stage of all the cases of cerebral sclerosis which have come under the writer's observation, preceded this patient's present trouble.

Inability to walk backward has been noted in advanced stages of locomotor ataxia, but *the sign* in these cases is *not the inability, but the clumsy* backward movement. In a case now under treatment, sent me by Dr. Fry, of Mattoon, Ill., the patient walks backward, but can not walk steadily if he tries to plant his feet firmly on the ground—the ball of the toe and the heel simultaneously and without spreading the legs apart; nor can he walk with the usual spring if he attempts to go backward on his slightly flexed tarsals. This is a good test. Well men do not walk well backward, and the effort tests the co-ordinating power if we suspect the ataxia to have its pathological seat in the lower dorsal spine.

I have come latterly to seek for both of these signs in my examinations of suspected ataxia. They are of equal value with other evidences of inco-ordination and impaired or abolished reflex.

It is a wise precaution in these examinations to inquire always if the power to gargle or to walk backward has been formerly possessed in good degree—a line of inquiry I have insisted on heretofore in regard to absent tendon reflex, for *it is the loss and not the mere absence of these functions which points to ataxia.* There are healthy people who have but slight reflex excitability in some of the ordinary normal reflex arcs, especially in that of the quadriceps extensor femoris, and by some healthy persons it seems never to have been possessed at all.

Note.—It will be observed that I draw no pathological line between cerebral and posterior spinal sclerosis. Posterior spinal sclerosis is not always a disease that begins low down in the dorsal region of the cord and progresses upward. It may appear in distant parts of the posterior columns of the cord at the same time, or at different times, without the necessity of progressing by contiguity of tissue. The location determines the difference in name and symptoms without a necessary difference in the nature of the morbid process.

The anomalies of posterior spinal sclerosis are many and singular. For example, a case of locomotor ataxia has come under my observation since the foregoing was written, in which the gastrocnemii reflex could not be elicited, while the knee phenomenon did not appear on percussion.

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Book Notices.

A Practical Treatise on the Diseases of the Ear, including a Sketch of Aural Anatomy and Physiology. By D. B. St. John Roosa, M. D., LL. D., Professor of Diseases of the Eye and Ear in the New York Post-Graduate Medical School, etc. Sixth Edition, Revised and Enlarged. New York: William Wood & Co., 1885. Pp. xxii–702.

Dr. Roosa's classical work is so well known to the profession that any praise of it now would be only a repetition of what has often been expressed before. When the author states that he has thoroughly revised the last edition, we need no further assurance that the present volume is fully up to date. The general arrangement of the book remains the same as in previous editions. The section on anatomy has been enriched by the introduction of several new illustrations, as well as by additions of fresh matter in the text.

A number of new ideas will be found scattered through the book, all of them expressed in the author's usual happy style. We note several additions to the section on the internal ear and its diseases. Dr. Roosa has made a careful study of this abstruse part of his specialty, and makes several original deductions. Eight pages are devoted to the effects of quinine on the labyrinth, the opinion being given, as the result of a number of experiments and clinical observations, that "the tinnitus aurium and impairment of hearing following the use of quinine depend upon congestion of the ultimate fibers of the auditory nerve in the cochlea, and that the redness of the drumheads is merely an index of the former condition." From late observations on boiler-makers' disease, Dr. Roosa concludes that the lesion is either in the membranous labyrinth or the trunk of the auditory nerve. His experience in the treatment of nervous deafness by electricity has been negative. "I fear," he says, "that we must abandon the hopes entertained by some of the powers of this subtle agent in those as yet mysterious diseases, the affections of the internal ear."

The book closes with an interesting chapter on the examination of deaf-mutes, containing an elaborate series of tables. Disease of the middle ear is inferred to be the cause of deafness in the majority of such cases.

Human Osteology, comprising a Description of the Bones, with Delineations of the Attachments of the Muscles, the General and Microscopic Structure of Bone, and its Development. By Luther Holden, Ex-president and Member of the Court of Examiners of the Royal College of Surgeons, etc., assisted by James Shuter, F. R. C. S., M. A., M. B. Cantab. Sixth Edition. New York: William Wood & Co., 1885. Pp. ix–276. [Wood's Library of Standard Medical Authors.]

It is unnecessary to repeat the words of commendation which have so often been bestowed upon this admirable and now classical work. Generations of medical students will recall with gratitude the aid which they received from this book, into which the author has infused so much of his own enthusiasm. We venture to predict that it will be long before "Holden's Osteology" is superseded either in England or in America. The present volume does credit to the publishers, who, considering the cheapness of the edition, have succeeded remarkably well in following the original. The plates are, of course, the main feature in a work of this kind, and, upon comparing those of the English edition with those in the book before us, we have in most cases nothing but approval to offer. A few of the smaller cuts, especially those in the section upon the microscopic structure of bone, are not fortunate in their details, but the larger plates are good. Altogether we congratulate the publishers upon such a good introduction to their "Library" for 1885.

BOOKS AND PAMPHLETS RECEIVED.

A Guide to the Diseases of Children. By James Frederick Goodhart, M. D., F. R. C. P., Assistant Physician to Guy's Hospital, and Lecturer on Pathology in its Medical School, etc. Revised and edited by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, etc. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. 738. [Price, cloth, $3; sheep, $4.]

On the Wasting Diseases of Infants and Children. By Eustace Smith, M. D. Lond. Fourth Edition. New York: William Wood & Co., 1885. Pp. xx–278. [Wood's Library of Standard Medical Authors.]

The Osteology of Amia Calva, including certain Special References to the Skeleton of Teleosteans. By R. W. Shufeldt. Washington: Government Printing-Office, 1885. Pp. 94. [Extracted from the Annual Report of the Commissioner of Fish and Fisheries, for 1883.]

London Water Supply. Report, etc. No. XLVIII and No. XLIX.

Le basiotribe Tarnier. Par le Dr. A. Pinard, Professeur agrégé à la Faculté de Médecine, etc. 11 figures et 2 planches en chromo-lithographie. Paris: G. Steinheil, 1885. Pp. 66.

First Annual Report of the Buffalo Hospital of the Sisters of Charity.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
Published by
D. Appleton & Co.
Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, APRIL 25, 1885.

THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

In the comparatively uneventful course of things medical in this country—speaking with regard to the quasi-corporate capacity of the profession—a meeting of the American Medical Association is always noteworthy from other points of view than that which takes account of the mere advancement of medical science. As concerns this latter aspect, to be sure, the occasion is one of moment, for, save for the international congresses, it is doubtful if any other periodical gathering of men engaged in the study of Nature brings together so great a number of persons whose daily life leads to their pursuing their observations under such diverse, and therefore mutually corrective, circumstances. In our remarks upon previous meetings of the association we have called attention to some of the material drawbacks that the organization has to sustain in consequence of the immense territory from which it draws its membership, and it is a pleasure to be able to say that those disadvantages are abundantly offset by the profitable comparing of notes that takes place between Maine and Texas, Oregon and Florida. Looked at from this standpoint, we fear it must be said that we of the North have hardly anything special to contribute as the result of our particular field of study, and that we are likely to get deeper and deeper in debt to our Southern brethren. Relying upon their proverbial chivalry, however, we may repose full trust in the thought that they will never claim payment, and especially may we feel this assurance on the present occasion, for the meeting is to be held in the greatest city of the extreme South, and in his own home the Southerner's amiability is unalloyed.

We are confident that the meeting which is to be held in New Orleans on Tuesday, Wednesday, Thursday, and Friday of next week, although, we regret to say, the indications point to a slim attendance from the older of the Northern States, will be amply representative of the whole country. All who can possibly make the long journey, of those who are qualified to attend as delegates or as permanent members, will, we are persuaded, be present, and that, too, quite independently of the attractions of the fair now in progress at the place of meeting. We look, also, to see a harmonious and profitable meeting. There will of course be some clashing of views and interests, but we see no reason to apprehend any occasion for acerbity. Prominent among the matters that seem likely to come up for discussion and action in the general meeting, there are two upon which we may be allowed to express our feeling.

The first of these is a proposition which, it is understood, will be made to vary for the time being the order of rotation of the places of meeting. By a rule now in force, every second meeting is held in Washington, but in the regular routine the next Washington meeting will not come in the same year in which the ninth International Medical Congress is to hold its session in that city. There are those, we are informed, who will seek to modify the rule in such manner as to make the two meetings coincide. Any such action, it seems to us, would be injudicious. Let the American Medical Association and the International Medical Congress each stand on its own bottom. Neither can add luster to the other, and any attempt at a fusion or blending of the two would, we feel sure, result in spoiling both.

The other matter upon which we would express an opinion concerns the management of the association's "Journal." It is understood that its present editor, who may justly be called its founder, as well as the "father" of the association, feels unalterably constrained to put an end to his editorial connection with the "Journal." All who have watched his judicious management of the publication must lament his decision, but everybody must also admit that the association has no moral right to insist upon overruling it. But, since a change is necessary, let it be as slight as possible; let the editorial chair be filled by some one who is thoroughly imbued with the ideas that have enabled Dr. Davis to launch it on its present creditable career. Let him be a Chicago man if possible, for even so non-essential a matter as a change in the place of publication may play a great part in leading to a deviation from the past management of the "Journal" that all who are interested in its success would deeply deplore sooner or later.

It may be that other questions will arise capable of leading to dissension, but we are firm in the faith that disagreement can not proceed to any marked extent under the presidency of the genial and kindly Dr. Campbell, the error of whose rulings, if any is made, we all know will be in the direction of forbearance. All things considered, we count upon recording the meeting as one of the most satisfactory in the history of the association.

THE STUDY OF CHEMISTRY IN MEDICAL SCHOOLS.

The "British Medical Journal" contains an article upon this subject, which defines almost exactly the position of American medical schools with reference to this branch of science. It has been wisely proposed by the English Medical Council to omit chemistry entirely from the regular scheme of first-year studies, and to place it among the number of preliminary subjects included in the entrance examination. Reference is made to the superficial and unsatisfactory manner in which the science is taught in medical institutions, where it serves simply as a distraction from the more important branches of anatomy and physiology. We cordially agree with our English contemporary in its suggestion that general chemistry should be banished from the curriculum, and that, in its stead, there should be introduced practical instruction in physiological chemistry, toxicology, and materia medica, subjects in which our students are sadly deficient. We are aware that this will be regarded as a bold innovation, but the idea is one which we have frequently heard expressed by medical graduates whose opinions were entitled to respect. They have, almost without exception, deplored the time spent in a study which, extremely important as it is in itself, only assumes a practical interest for them at the time of examination, being speedily forgotten afterward.

Without discussing the subject of entrance examinations, on which we have often expressed decided views, we can not urge too strongly the importance of the medical student being well grounded in physics and chemistry at the very outset of his course. It is a mistake to suppose that he can supply the deficiency subsequently, when his interest is naturally centered upon the studies which bear directly on the practice of his profession. It is in vain to expect men to profit by the most elementary instruction in anatomy and physiology when they have never learned the principles which underlie these branches; and it is equally unscientific to teach them the elements of chemistry while at the same time they are listening to lectures which presuppose a considerable knowledge of that science. We believe that the change will eventually be made by a natural process of evolution, and that chemistry will come to occupy its true place, that of the foundation and not that of the imperfect superstructure of the student's knowledge.

MINOR PARAGRAPHS.

THE DRINKING-WATER OF PHILADELPHIA AND CHICAGO.

New York, it may be suspected, is not alone in the possession of a water-supply that is not above the suggestion of impurity. In Philadelphia, not only is apprehension felt about the quality of the water, but—far worse than that—if the "Sanitary News," of Chicago, is correctly informed, the Common Council of Philadelphia has so far lost its sense of decency as to pass a vote requesting the chief engineer of the water department to maintain silence in regard to the insanitary condition of the water. In Chicago, according to the same journal, some of the members of the Citizens' Association report that they have observed discoloration of the water, extending from the mouth of the river in a fan shaped area entirely surrounding the crib. From the comments added by the "News," however, we infer that the defilement of the water is more apparent than real, being due to a temporary stoppage of the pumps for purposes of repair.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 21, 1885:

DISEASES.	Week ending Apr. 14.		Week ending Apr. 21.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	7	3	4	0
Scarlet fever	79	15	70	17
Cerebro-spinal meningitis	8	4	1	2
Measles	183	17	174	27
Diphtheria	67	23	48	20

The Late Dr. James L. Little.—A copy of the following resolutions has been received at this office:

Whereas, The Northwestern Medical and Surgical Society has, since its last meeting, lost by death one of its most valued members, James Laurence Little, M. D., formerly president of this society—a man who was endeared to every member by his upright character, personal amiability, professional acquirements, and genial manners; therefore be it

Resolved, That in the death of Dr. Little this society deplores the loss of a most honored and valued colleague—one who by his experience and knowledge contributed largely to the interest of every meeting, and enriched each reunion by his sound sense and practical views.

Resolved, That in our intimate relations with him we learned to respect the able surgeon, the patriotic citizen, the devoted husband, father, and friend, the good and charitable physician, and the honest man; striving steadily, perseveringly, and successfully to elevate himself and all coming under his influence unto a higher and nobler sphere of thought and action.

Resolved, That, while deeply deploring our own loss, we offer our sincerest sympathy and condolence to Mrs. Little and her family, and, in thus recording our love and regard for the departed, divide with them the sorrow for his too early demise.

Resolved, That an authenticated copy of these resolutions be sent to the bereaved widow and family, and to the "New York Medical Journal" and New York "Medical Record," and that they be entered upon the minutes.

Mark Blumenthal, M. D.,
[Signed.] Edward C. Harwood, M. D., } *Committee.*
Edwin F. Ward, M. D.,
Thomas H. Burchard, M. D., *President.*
J. Henry Fruitnight, M. D , *Secretary.*

A Lecture on Animal Plagues, with special reference to their influence on health and property and the means of their prevention, was given by Dr. D. E. Salmon, chief of the Bureau of Animal Industry, on Wednesday evening of this week. The lecture was the third of a series given under the auspices of the Association of the Alumni of the Long Island College Hospital, and took place at the college building.

An Association of the Graduates of the New York Woman's Hospital.—A preliminary meeting of the graduates of the Woman's Hospital residing in New York was held on Wednesday evening, the 22d inst., for the purpose of organizing an alumni society. Dr. G. S. Winston was called to the chair, and the work of organizing the society was referred to a committee consisting of Dr. Winston, Dr. Bache McE. Emmet, Dr. Clement Cleveland, Dr. James B. Hunter, Dr. Henry C. Coe, and Dr. A. P. Dudley. It is expected that the objects of the society will be both scientific and social. The first regular meeting of all the members will be held in May.

Small-pox.—The press reports are to the effect that there has been a considerable increase in the disease in Montreal, and it has lately broken out at several places in Michigan. At the annual meeting of the Michigan State Board of Health, held on the 14th inst., the secretary, Dr. Henry B. Baker, to whom we are indebted for a summary of the proceedings, reported that during the quarter preceding the meeting an outbreak at South Boardman had been suppressed, but that a case had been reported at East Saginaw, two at Grand Rapids, four at Battle Creek, and five at Bellevue. An interesting connection is traced between the outbreaks at these various places.

Cheese Poisoning.—At the same meeting, Dr. Vaughan reported verbally the results of his further investigation of the subject of cheese poisoning, and said that he had certainly secured, in a crystalline form, a small quantity of one poison from poisonous cheese, which would produce the symptoms of cheese poisoning in man, but other poisons might be present also. He had not yet fully studied the poison he had obtained, but it gave reactions like those of a ptomaine. He thought it probable that butyric acid had something to do with causing cheese poisoning, and the lack of a rancid odor would not prove the absence of all forms of butyric acid.

The Reported Outbreak of Cholera in Spain no longer seems to admit of doubt, and some criticism has been expressed of the course of the Spanish physicians in delaying to give information of its true nature. It is announced now that France, Holland, Portugal, and Turkey have declared quarantine against Spanish arrivals.

The New Indiana Medical Law.—The Governor has signed a bill providing that any person desiring to practice medicine or surgery shall procure from the clerk of the Circuit Court a license, to secure which he must file an affidavit showing his graduation from some reputable medical college; or else he shall present the affidavits of two reputable freeholders that he has practiced medicine in the State for ten years. It is said that the law does not apply to midwives.

The Croton Water.—Every New Yorker will feel a heightened confidence in his own senses of sight, smell, and taste at the announcement that an investigating committee has reported that the water he drinks is contaminated with village sewage; but we are all chiefly interested in the question as to what is to be done about it.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 12, 1885, to April 18, 1885:*

Brown, Harvey E., Major and Surgeon. Leave of absence extended two months. S. O. 83, A. G. O., April 11, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending April 18, 1885.*

Yemans, H. W., Assistant Surgeon. Detailed as medical officer Revenue Steamer Corwin, during cruise. April 16, 1885.

Battle, K. P., Assistant Surgeon. When relieved, to proceed to New Orleans, La., for duty. April 13, 1885.

Brooks, S. D., Assistant Surgeon. Granted leave of absence for ten days. April 16, 1885.

Society Meetings for the Coming Week:

Monday, *April 27th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Cambridge, Mass., Society for Medical Improvement; Lawrence, Mass., Medical Club (private).

Tuesday, *April 28th:* American Medical Association (New Orleans—first day); New York Surgical Society; New York Dermatological Society (private); Buffalo, N. Y., Obstetrical Society; Boston Society of Medical Sciences (private); Medical Societies of the Counties of Putnam, N. Y., Hunterdon, N. J. (Flemington), and Litchfield, Conn.

Wednesday, *April 29th:* American Medical Association (second day); Auburn, N. Y., City Medical Association; Medical Society of Gloucester County, N. J.; Berkshire District, Mass., Medical Society (Pittsfield); Middlesex North District, Mass., Medical Society (Lowell); Cumberland County, Me., Medical Society (Portland).

Thursday, *April 30th:* American Medical Association (third day).

Friday, *May 1st:* American Medical Association (fourth day); Practitioners' Society, New York (private).

Saturday, *May 2d:* Manhattan Medical and Surgical Society, New York (private); Clinical Society of the New York Post Graduate Medical School and Hospital; Miller's River, Mass., Medical Society.

Letters to the Editor.

A WARNING AGAINST AN IMPOSTOR.

A man, about thirty-five years old, of Jewish type, rather good-looking, with short, black hair and high-colored cheeks, of slender build, lacking the left central incisor of the upper jaw, hard of hearing, and shabbily clad, visits physicians and proposes to sell them instruments or books, or find good purchasers for books they want to dispose of. In this way he has obtained both books and cash from me, and the addresses of his residence and place of business have proved to be fictitious; wherefore I warn others not to allow themselves to be cheated by this dangerous individual. Doctor.

Proceedings of Societies.

NEW YORK SURGICAL SOCIETY.

Meeting of April 14, 1885.

The Vice-President, Dr. Charles McBurney, in the Chair.

Mikulicz's Operation.—Dr. A. G. Gerster presented a patient upon whom he had performed Mikulicz's operation on the 17th of January, 1885, and who was now able to walk with only a very slight limp. The man was a professional nurse, forty-eight years of age, who in May, 1881, had an attack of erysipelas in the region of the heel and foot, for which he was treated in Bellevue Hospital. A large abscess formed, the calcaneum became involved, superficial necrosis followed, for which the bone was scraped out, and he was finally dismissed from the hospital, but not improved. In 1883 he came under Dr. Gerster's care in the German Hospital, with epithelioma in the situation of the ulcer upon the heel, of about the size of a trade dollar, which had never healed. The character of the new growth had been determined by a number of microscopical examinations. It was sessile and firmly attached to the calcaneum. Dr. Gerster removed it, and at the same time exsected the entire tuberosity of the calcaneum, hoping thus to gain sufficient space for the use of a skin-flap formed from the sole of the foot to cover the defect with, but succeeded in covering only about one half of it. Necrosis of this flap followed, due to the compressive dressings used and to the atheromatous condition of the arteries. The remaining defect was cicatrized over completely within the next three or four months, and ultimately a scar remained, extending from the planta pedis up to the insertion of the tendo Achillis, with the foot in the position of pes equinus. The cicatrix frequently ulcerated, especially in cold weather, and finally the ulceration became almost permanent, so that the patient pleaded for an amputation. Dr. Gerster proposed, however, instead of amputating the leg, to perform Mikulicz's operation, after having taken into consideration the advisability of a plastic operation according to the usual method of cutting out a flap from the other limb and transposing it to the ulcerated surface, holding the limbs by means of plaster splints in such apposition as to permit the flap to come in contact with the denuded surface, and afterward separating the pedicle of the flap when the circulation in its new attachment had become sufficient to maintain nutrition. In view of the man's atheromatous arteries, necrosis of a flap raised for such a plastic operation seemed almost certain, wherefore partial exsection of the tarsus was decided upon. The principle of the operation was as follows: In cases where the heel was denuded of its integument, Mikulicz thought that the length of the limb could be preserved and made available for motion without the assistance of complicating apparatus, if the calcaneum and astragalus were removed and the anterior portion of the foot saved and brought in contact with the tibia and fibula. The first incision was made almost in the same manner as for Pirogoff's or Syme's operation, cutting down to the bone, beginning a little anterior to and below the malleolus of one side, carrying it across the planta pedis to the corresponding point upon the other side. The incision was then extended up to the center of the malleolus and carried round the leg to a point behind corresponding to the insertion of the tendo Achillis. Through this latter incision the posterior aspect of the ankle joint was exposed and the same was entered and dissected up until the head of the astragalus was denuded, and then the astragalus and the calcaneum were severed from their last connections, as in Chopart's operation. When this had been done the remnant of the foot, containing the scaphoid, the cuboid, the cuneiform bones, the metatarsals, and the toes, was hanging by a flap, situated on the anterior portion of the limb, the nutrition of which was sustained through the dorsalis pedis artery. The tibia and fibula were then sawn through at the malleoli, and also the cuboid and scaphoid bones were separated from the soft parts sufficiently to permit the saw to be carried through them on a vertical plane. In this way two rather extensive bony surfaces were left, which were brought together and rendered immobile by driving a nail in a slanting direction through the scaphoid into the spongy portion of the tibial epiphysis. Finally the cutaneous edges were united by a continuous catgut suture, and the limb was swathed in an antiseptic dressing.

The patient presented was the second one upon whom he had performed the operation, and the result was the better of the two. So far as his knowledge extended, these two operations were the eighth and ninth which had been performed. In the other case the final result would be satisfactory. In that case the limb was lengthened half an inch, so that the patient would be obliged to have an elevated shoe upon the opposite side. In the case of the patient presented, Dr. Gerster had removed a trifle too much of bone, and produced a shortening of a quarter of an inch, which was so slight a matter that the patient was able to walk with scarcely a perceptible limp. On account of the free removal of the scaphoid and cuboid bones, he had come very near the joint between the scaphoid and the cuneiform bones—in fact, so near that the ligaments fastening that joint were detached, and the mobility present was due to mobility at that articulation, but this was rather an advantage than otherwise.

When the Esmarch bandage was removed the blood-vessels did not bleed at all, and he was somewhat startled at the thought of the possibility that the atheromatous condition of the vessels and the constriction to which they had been subjected might seriously interfere with the circulation, but, when the foot was brought into its normal position, free hæmorrhage set in—so free that it became necessary to apply nearly twenty-five ligatures to arrest the hæmorrhage. After this was done the bones were brought into apposition, and, as previously mentioned, a long nail was driven through the remnant of the scaphoid bone into the tibia, which gave firm apposition of the sawn surfaces. An antiseptic dressing was applied, and a correct healing of the wound took place, with primary union of the sawn surfaces. By the 2d of February the nail could be withdrawn; its vicinity never showed any evidence of reaction. The track of the nail secreted a little sero-purulent matter for a few days after its removal, and then closed up. Very soon afterward the patient was ordered to walk about. Mikulicz had said that he had been obliged to perform tenotomy of the short flexor to allow of super-extension of the toes, but in this case Dr. Gerster had not found it necessary, and, by the aid of a shoe with the heel somewhat elevated, the patient was able to walk very comfortably, and with a good deal of elasticity.

In reply to a question Dr. Gerster said the line of section extended vertically through about the middle of the scaphoid and through the posterior portion of the cuboid.

Cases bearing upon Certain Mooted Points in Syphilology.—Dr. E. L. Keyes read a paper with this title. [See page 464.]

Dr. A. C. Post asked if any irritation of the kidneys was produced by the large doses of iodide of potassium.

Dr. Keyes replied, Not a particle.

Dr. R. J. Hall asked if the percentages in Dr. Keyes's statistics included chancroids or only indurated chancres.

Dr. Keyes said they included only chancres which had initial sclerosis; he did not think it had ever reached quite fifty per cent.

Dr. Gerster asked Dr. Keyes, with regard to selection of cases by the Vienna men, if among the unicists excision was not practiced indiscriminately.

Dr. Keyes replied that it was. He thought the first statistics given were based on the fact that only initial sclerosis was excised.

Dr. Gerster believed that the position taken by the unicists was rational and logical, inasmuch as they admitted that there was something with reference to venereal sores which they did not know, but which the dualists professed to know and did not know. It was frequently the case that a soft chancre occurred, which remained soft, and yet was followed by syphilis, and one such well authenticated observation was sufficient to overthrow the whole doctrine of dualism.

Dr. Keyes said, Yes, one such authenticated case was sufficient to overthrow the entire theory of dualism if syphilis was always ushered in by hard chancre, a view which no dualist at the present time, so far as he knew, entertained. The induration of a primary chancre was very constant, but it might be entirely simulated by conditions which were not induration, so that all dualists had dropped the view that the initial lesion of syphilis was always indurated. In other words, that a given lesion was syphilitic simply because it was hard, and that it was not syphilitic simply because it was soft, was not held to-day by any dualists. But that the initial lesion was generally hard was what the dualists did uphold. The absence of inguinal engorgement might as well be alleged by the unicists as one of the irregularities in the expression of syphilis. Nor did the dualists believe that the indurated chancre was necessarily a syphilitic chancre, but that it was very frequently. The sore might be soft, the inguinal glands might be suppurating, and still the patient have syphilis. It had not been Dr. Keyes's experience to encounter a sore occurring within ten or twelve days after exposure which had turned out to be a syphilitic sore. The incubation period was one which required great care in deciding its exact limit, and was, Dr. Keyes thought, a more valuable symptom of syphilis than the induration of a given sore.

Dr. Gerster said his remarks had not referred so much to the practical study of the question as to the statement made by Dr. Keyes that the dualistic theory had brought order out of chaos. He thought that chaos had been much more firmly established by the doctrine of dualism, that the dualistic theory was artificial and not based upon the natural history of the disease, and that it was unphilosophical. It was practically useful in most cases, to be sure, but it did not give a real and satisfactory explanation of the relation of the initial sore to the subsequent phases of the disease.

Dr. Keyes said it certainly produced practical care, and he should be very glad to put the word practical before the words which he had used in his paper. Practically, it reduced the matter to a chaotic state to say that all sores, whether soft or hard, were syphilitic, and it reduced the surgeon logically to the necessity of treating the patient with mercury because of the fear of the development of syphilis. This was much less philosophical and less useful than the dualistic theory, which involved the use of mercury in the treatment of only one class of cases.

Dr. Gerster believed that, inasmuch as it had been taught by Sigmund that syphilis should be treated symptomatically—that is, not until it manifested itself unmistakably—the objection set forth by Dr. Keyes fell through.

Dr. Keyes said it would fall through except that the natural sequence of the statement that all chancres were syphilitic would be to treat them as for syphilis. The logical conclusion of unicism, as it seemed to him, was that all sores should be treated as if they were to be followed by syphilis, which would be an error, and would have a deplorable effect upon patients in general.

Dr. Gerster said that that was an error, certainly, but what we were after was the truth, and not the effect which it would produce upon the community.

Thrombosis of the Brachial Artery, occurring from Pressure of the Weight of the Body.—Dr. Post presented a specimen of this sort. The patient was a feeble man, fifty-eight years of age, who had been bedridden for nine months with myelitis and paralysis, and loss of power over the urine and fæces. Two days before death he slept with his right arm under the back, and awoke with pain and a feeling of tingling and numbness. About an hour later the arm was seen to be white, and was cold and pulseless. On the next day there was discoloration about the elbow, which in the evening had extended to the shoulder. The specimen had been presented to him by Dr. Waitzfelder, and showed the upper third of the brachial artery distended with a firm clot.

Fixation of the Bones after Resection of the Knee Joint.—Dr. C. K. Briddon described a method which he had used, consisting in the driving in of four nails, each about three inches in length, two in the sides of the lower end of the femur and two in the sides of the upper end of the tibia, and suturing them with copper wire. The nails should be driven in about half an inch from the cut surface, and they should be left projecting about an inch and a half, to prevent the copper wire from becoming buried in the integument. It was also important to approximate the skin-flaps before driving in the nails. The nails were held firmly in position by making a figure-of-eight loop around them close to their heads, and in the two cases in which he had employed this method immobilization was complete.

The Vice-President said the method appeared to do away with one objection which had been urged against nails, as it seemed applicable to cases in which the ends of the bones had been largely excavated by abscesses.

NEW YORK ACADEMY OF MEDICINE.

Meeting of April 16, 1885.

The President, Dr. A. Jacobi, in the Chair.

Announcements were made as follows: That Dr. E. G. Janeway had been appointed by the Council to deliver the anniversary address in November next; that Dr. M. H. Henry had been appointed by the President to read a memoir of the late Dr. Louis Elsberg, and Dr. D. B. St. John Roosa to read a memoir of the late Dr. James L. Little; that Dr. L. Putzell had been chosen chairman of the Section in Neurology, the meetings to be held the second Friday of each month, the first meeting to take place in May; and that Dr. A. L. Loomis had been chosen chairman of the Section in Theory and Practice, the time of meeting to be announced in the future.

Presentation of a Portrait of Dr. Fordyce Barker.—Dr. T. M. Markoe made the presentation speech. He said: "It is my pleasant duty on this occasion, in behalf of the generous donors, to present to you, Mr. President and Fellows of the Academy, this beautiful portrait and admirable likeness of our former President, Dr. Fordyce Barker. . . . The gift itself is a costly and valuable one. To us, however, far above its cost lies its greater value in what it suggests of warm and kindly appreciation on the part of the great world outside of the profession of the aims, motives, and achievements of the medical science of to-day. The gift means no chance suggestion or accidental impulse to do a praiseworthy deed. It means much more. It means a well-considered and an intelligent conviction of the worthiness and success of our efforts for the relief of human suffering, and a most gratifying assurance that those efforts are, at least in some degree, appreciated by an interested and generous public. We should not, however, overlook the testimony which the gift bears to the personal regard of the distinguished givers, Mr. and Mrs. Astor." Dr. Markoe then referred to the eminent services rendered the Academy by Dr. Barker during the three successive terms he had served as President, and particularly to the dignified and impartial manner with which he discharged his duties during the exciting controversy about codes and the allegations against his personal character.

The President, on the part of the Academy, accepted the beautiful gift, and expressed pleasure at the fact that it had come from the midst of the public, which had taken an interest in the best of the profession. Being the portrait of Dr. Barker, it certainly was a well-merited honor.

Dr. A. C. Post said he had no doubt the Academy would highly prize this gift as an unusually beautiful work of art, and as a remembrancer of one who during a series of years had presided over the deliberations of the Academy with extraordinary dignity and grace, and he therefore moved that the thanks of the Academy be presented to the generous donors. Carried unanimously.

Dr. H. N. Heineman moved that the thanks of the Academy be extended to Dr. Markoe for his presentation speech. Carried unanimously.

Endometritis Fungosa; its Pathology, Diagnosis, and Treatment.—Dr. James B. Hunter read a paper with this title. He first gave a brief review of the early descriptions of the disease and the bibliography. There was some confusion as to the exact meaning of the term fungosity. Dr. Hunter thought there was an error when authors spoke of fungosities of the cervix; the disease did not invade the cervix. He had seldom found fungosities of the lining membrane of the uterus exceed five millimetres in length. They were not easily broken down under the finger, and their number and size were not in proportion to the amount of hæmorrhage which they excited. Three varieties were spoken of by Dr. Mundé, including what he called the hyperplastic form. Dr. Hunter, however, regarded all cases as consisting simply of hypertrophy of the mucous membrane, assuming a pedunculated or a sessile form, or constituting papillary growths, with a very free blood supply. They were not friable like granulation tissue, and showed no tendency to degeneration. On section they were found to contain a good deal of fibrous tissue, and to be covered by a single layer of epithelial cells. The question naturally arose, Why should the hæmorrhage be so great from a cause apparently so trifling? The hæmorrhage would not be found so excessive if we took into consideration the greatly increased extent of the mucous membrane as it followed all the irregularities of surface presented by the fungosities. The superficial area of the uterine cavity was much increased by these growths, and the menorrhagic flow from the congested mucous membrane was consequently exaggerated.

A positive diagnosis of fungosities by a microscopical examination was difficult; indeed, it could not be made positively from the appearances of a single specimen, especially if it was fresh. A number of specimens should be examined and the clinical history taken into consideration. The principal symptom was menorrhagia. Dr. Hunter had found pain to be a rare consequence of fungosities. The menstrual period, instead of lasting not longer than five days, might continue for from eight to twelve days. A long train of symptoms naturally followed, but not differing from those due to anæmia from other causes. In some cases, instead of a hæmorrhage, there was a constant sanious discharge, with symptoms of loss of blood.

Fungosities seemed to result generally from chronic congestion of the uterus due to any cause, more especially subinvolution, retroversion, or retroflexion, and from moderate amounts of uterine congestion or mild endometritis long continued, rather than from the acute disease. Fungosities had no connection with gonorrhœa or syphilitic affections, so far as could be ascertained. They occurred usually during the childbearing period, and, as a rule, between the ages of twenty-five and forty. One cause of hyperæmia of the uterus was fibroid tumors, and this explained the frequent existence of fungosities in these cases.

The conditions to be borne in mind in making a differential diagnosis were, among benign growths, submucous polypi, adenoma of the uterus, villous degeneration of the endometrium, spoken of by Goodell (which, however, was probably either cancer or simple fungosities), and placental remains; of malignant growths, the round-celled or diffuse sarcoma. Medullary carcinoma of the body of the uterus was so different in its clinical and microscopical history that there was little danger of confounding it with fungosities. The author gave at some length the points of difference between fungosities and sarcoma, a condition which he believed not to be very uncommon.

The treatment of uterine fungosities was very simple and satisfactory. To cure the condition which gave rise to hyperæmia of the uterus might be very difficult and very tedious. In the treatment of the fungosities it was not necessary to dilate the cervix, as the presence of any growth within the uterus tended to produce a patulous state of the cervix. The surface of the uterine cavity was wiped with the applicator wrapped with cotton, and then scraped with the blunt curette, after which the cotton was again used to remove the last of the fungosities and cleanse the cavity of the uterus. An application was then made of Churchill's tincture of iodine, or of a strong solution of carbolic acid, then a small tampon was applied to the cervix, and the patient was put to bed. If there was any pain after the operation, morphine might be indicated. The operation might be done without an anæsthetic, but it was almost always painful. The patient should be told not to expect immediate improvement, as it was often not until the second or third curetting that the menstrual flow became diminished.

Curetting should never be performed in a case of recent pelvic inflammation, or in cases in which the uterus was so sensitive that it would not tolerate the passage of the sound. In such cases the patient should be prepared by the use of hot water to undergo the operation. Regarding the curette itself, it should be blunt and made of copper or other soft metal, admitting of ready bending of the shank; it should be about nine inches long. Two sizes should be at hand.

Dr. W. **Gill Wylie** accepted a part of the paper read by Dr. Hunter, especially that which related to the pathology of endometritis fungosa. He also agreed with Dr. Hunter that hæmorrhage was seldom of any consequence after curetting for fungosities, and he therefore could not understand why Dr. Hunter made use of a tampon. Dr. Wylie thought the use of the tampon was a violation of one of the first laws of surgery, namely, to secure perfect drainage. If a vessel was wounded and caused considerable hæmorrhage in uterine surgery he would secure it with a wire, or use some styptic, such as hot or cold water, etc. As to dilating the cervix before curetting, he did so for the purpose of securing plenty of room and to establish free drainage. Dilatation should be performed with Sims's dilator. As to Sims's curette, he did not think it could properly be called a sharp curette, although it was made of steel. Two sizes with the handle of a given form had been employed by Dr. Sims during the latter years of his life, and Dr. Wylie thought they could be used with safety and with greater efficiency than the blunt curette. With the dull curette the operation would oftener fail than with Sims's, for it seemed only to macerate the fungosities and not to bring them all away.

Dr. P. F. **Mundé** said, with regard to his previous statements concerning the frequency of sarcoma of the uterus, referred to by the author, that he had since seen a number of cases, and believed the affection to be more common than it was then thought to be. There could be no doubt of the existence of an endometritis hyperplastica which gave rise to the same symptom, menorrhagia, and required the same treatment, as endometritis polyposa or endometritis fungosa. He dwelt upon the importance of remembering the order of sequence of the pathological conditions leading up to endometritis fungosa, laceration of the cervix, subinvolution, chronic areolar hyperplasia, and hyperplastic endometritis in its various forms. These symptoms should be treated in the inverse order of their occurrence, first scraping the cavity of the uterus and removing the vegetations, restoring the endometrium and entire organ to a more nearly normal condition by applications of iodine, and the use of antiphlogistic remedies, and then uniting the lacerated surfaces. With regard to the symptoms, with rare exceptions menorrhagia constituted the symptom, but in a few cases there was amenorrhœa followed by dysmenorrhœa. The use of the blunt curette had become widely popular, and its popularity had been brought about not a little by himself; yet he had of late years found cases in which the sharp curette, as stated by Dr. Wylie, was necessary in effecting a cure of this condition. He would not, however, employ a rigid handle, as there might be danger of perforating the uterus. There might be considerable hæmorrhage after the use of the curette, especially if there was marked subinvolution, and he would then plug the vagina and the uterus, removing the tampon within forty-eight hours. Usually it was not necessary to dilate the cervix. Keeping up the treatment for three or four weeks by applications of iodine, we certainly could pronounce the patient cured, at least temporarily.

Dr. C. C. **Lee** agreed in the main with Dr. Hunter. Regarding the symptomatology, the characteristic symptom was menorrhagia, but now and then there was metrorrhagia as well. He generally put the patient through a course of preparatory treatment before curetting. He was unhesitatingly on Dr. Hunter's side of the question as to the choice of curette to be used. He believed that, except in the most skillful hands, Dr. Sims's curette was quite as likely to do harm as good, and he could not see why the sharp curette need be employed even by persons who were capable of using it skillfully. In preparing the patient for curetting he took great pains to diminish the chances of secondary hæmorrhage. He always employed an anæsthetic if possible. He never had found it necessary to employ a dilator. He washed out the uterus first with a weak solution of carbolic acid, and again after the curetting. He then applied a solution containing one part of a saturated solution of chromic acid and four parts each of alcohol and strong tincture of iodine.

Dr. B. F. Dawson was strongly in favor of the blunt curette, as opposed to the sharp instrument. He, too, had not found it necessary to dilate the cervix. He expressed himself as a strong opponent of what might be termed the ferocity of modern gynæcology.

Dr. Hunter, in closing the discussion, said he applied a light tampon of antiseptic cotton in contact with the cervix to encourage drainage and not to prevent it. He had not found it necessary to employ a tampon to check hæmorrhage. As to dilatation of the cervix, he found that the small curette would pass where the sound could be made to enter. Regarding Sims's curette, advocated by Dr. Wylie, it was certainly sharp, had a rigid handle, and was dangerous. He did not deny the existence of the form of endometritis referred to by Dr. Mundé, but it did not fall into the class of endometritis treated of in the paper. He was inclined to think that if hæmorrhage occurred after the curetting it was due to fungosities not removed. The blunt curette was a quite efficient means for removing all fungosities. If the original cause was not removed, such as subinvolution, etc., the fungosities were liable to return. He thought the strong tincture of iodine employed by him had had something to do with the arrest of hæmorrhage.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of April 8, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Cystic Kidneys with Dilated Ureters were presented for a candidate by Dr. Northrup.

Bayberry Tallow in Microscopical Work.—Dr. W. M. Carpenter called attention to the value of bayberry tallow as a medium for imbedding tissues. The material had been employed in the laboratory of the University of the City of New York by Dr. Miller and himself. It was of special value as being free from some of the disadvantages of celloidin, paraffin, and other imbedding materials. Bayberry tallow was not soluble in alcohol at the ordinary temperature, but was readily soluble in warm alcohol and in some other substances. The piece of tissue was allowed to remain in melted bayberry tallow for about fifteen minutes, by which time it became completely permeated by the tallow, and was then, after Dr. Miller's method, put upon a piece of cork, where it was allowed to remain until it cooled, when more tallow was added, to hold it in position. It was now ready for section. The bayberry tallow could then be removed by immersion in either warm alcohol or benzol, care being taken to avoid raising the temperature of these agents to the point of combustion. The advantages of bayberry tallow, therefore, were, that it admitted of rapid work, it could be removed thoroughly and easily from the tissue to be examined, it allowed of section with a great deal of precision, and its cost was trifling. Dr. Carpenter then exhibited a section of a bronchial tube prepared with bayberry tallow.

Dr. T. M. Prudden thought the method of imbedding described by Dr. Carpenter would prove of great practical value in laboratory work.

Exsection of the Tibia.—Dr. Wagenheimer presented specimens from a case of exsection of the upper part of the tibia for necrosis, in a child two years and a half old. During the course of the exsection it was necessary to open the knee joint, which was found to be involved. Over two inches of the upper portion of the tibia were removed. The bone was reproduced from the periosteum, so as to leave a shortening of only half an inch, with capability of extension, and of flexion to an angle of 45°.

Extra-capsular Fracture of the Neck of the Femur; Thrombosis of the Middle Cerebral Artery.—Dr. L. E. Holt presented a femur removed from the body of a woman seventy-three years of age, who slipped and fell upon the floor, sustaining a fracture of the upper end of the bone, afterward found to be extra-capsular. On the fourth day after the injury she became unconscious, and had hemiplegia of the right side. She died comatose seven days after the injury. Death was found to be due to thrombosis of the middle cerebral artery on the left side, and marked atheroma existed in the arteries throughout the brain. The aorta showed patches of atheroma. The natural angle at the junction of the neck with the shaft of the femur was much greater than usual, being about 120°. The angle existing after the fracture was about 110°.

Gunshot Wound of the Left Frontal Bone.—Dr. Van Gieson presented specimens obtained in the case of a woman who shot herself twice with a pistol just anterior to the left parietal region, during a state of delirium caused by typho-malarial fever. The pistol was of ·32 caliber. There were two wounds of the scalp anterior to the junction of the frontal and parietal bones, about an inch and a half apart, apparently wounds of entrance and of exit. Between the two holes the probe came in contact with a bullet imbedded in the bone. Subsequently hernia cerebri formed, and two months after the injury exfoliation of bone took place. The wound healed completely in about five months, and after that the patient had frequent attacks of pain, starting at the point of injury and running to the back of the neck; she was also "queer" at times, and very stubborn. She died in March, about a year after the injury, after an attack of acute rheumatism and pericarditis. The autopsy revealed thickening of the meninges, and new-formed tissue and congestion at the seat of the wound. There was also adhesion of the brain to the dura, and of the dura to the skull, and about the edges of the gunshot wound the brain was in a state of yellow softening. Several pieces of lead were imbedded in the skull at the inner and upper side of the bullet-hole. A negative point of interest was the fact that the wound was in the neighborhood of the speech center, but that there had been no signs of aphasia.

Intussusception.—Dr. J. Lewis Smith presented the intestine of a child six months old, artificially fed, a sufferer from colic for several weeks prior to its last illness. Intense pain and tenderness over the abdomen, vomiting, and constipation, with the passage of some blood *per rectum*, pointed to intussusception, which was treated by large clysters repeated several times for two or three days, but without the effect of reducing the invagination. About the beginning of the third day laparotomy was suggested, but was refused by the parents. Consent, however, was obtained by the following morning, when Dr. Sands was called in consultation. The fact that he could not discover an abdominal tumor, and also the fact that a little fæces came away with the finger during rectal examination, raised some doubt as to the exact condition present, and an operation was not performed. The child died rather suddenly twelve hours later. The invaginated portion of intestine was found to consist of the ileum and a portion of the large intestine, and had apparently been partially reduced by the injections of tepid water.

Dr. Smith remarked that within the last year or two he had succeeded in relieving symptoms of intussusception in several cases by injections of tepid water, but he did not persist longer in the present instance for fear of rupturing the gut. The reason why the tumor had not been felt was that it lay just beneath the left extremity of the liver, in the median line, well back, and was covered by a collection of fæces above and one of water below.

Dr. Holt remarked that one of the British medical journals recently contained an article in which the author advised against distension of the gut continued longer than the third day through fear of rupture, and stated that laparotomy should then be resorted to and reduction be effected by traction.

The President would resort to laparotomy twelve or twenty-four hours after the development of symptoms of intussusception, although the diagnosis might not be quite positive.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of April 2, 1885.

The President, Dr. B. F. Baer, in the Chair;
Dr. W. H. H. Githens, Secretary.

An Ovarian Cyst of Rapid Growth was shown by the President. An unmarried woman, twenty-six years old, a patient of Dr. A. G. Walls, of Lock Haven, Pa., with whom puberty had been established at the age of fourteen, who had always been well, being of a remarkably fine physique, tall and robust, felt some pain and uneasiness in the ovarian region three months ago. She was examined by Dr. Walls, who found the right ovary enlarged to the size of a large orange. She soon after found that her abdomen was increasing in size.

On March 9th, when the President saw her, she was beginning to show facial signs of ovarian disease in slight emaciation, pallor, and the peculiar distress of countenance. The menses were regular; the abdomen was distended to the size of the eighth month of pregnancy and was perfectly symmetrical, pyriform in shape, dull on percussion, with a resonant corona extending around from one flank to the other; and there was marked fluctuation. The vagina was virginal, the cervix uteri pointing slightly forward, the body retroverted and mobile. The lower border of the abdominal tumor could be touched *per vaginam*. The uterus was not affected by movement of the tumor. An ovarian cystoma was diagnosticated, and its immediate removal advised. Assisted by Dr. Walls, Dr. Hayes, and Dr. Lichtenthaler, and in the presence of Dr. Watson and Dr. Ball, he made an incision two inches and a half long. The fat in the abdominal wall was at least an inch in thickness. The cyst, which contained a bucketful of a thick fluid of the color of pus, was removed in a collapsed state through the small incision. There were no adhesions. The pedicle, which was short, was tied and dropped. The left ovary was found to be as large as a walnut and undergoing polycystic degeneration; it also was removed. The incision was closed with six silk sutures. The patient recovered without any outward symptom.

The rapidity of the development of this tumor was remarkable. The other ovary was a beautiful specimen of beginning polycystic disease. It was a curious fact that, of his last six ovariotomies, in not one of them had the period of development extended over nine months from the time the disease was first discovered. One of them had grown only three months, as just reported, from the time it was found by Dr. Walls to be of the size of an orange. They were all good-sized tumors, two of them weighing nearly forty pounds each.

The Bromide of Ethyl as an Anæsthetic in Labor.—Dr. Montgomery read a paper with this title. Reviewing the various anæsthetics, he said that chloroform was objectionable in that it caused inertia uteri and tedious labor, and increased the danger of post-partum hæmorrhage. The relative infrequency of fatal cases under its use in surgical practice, and the still greater rarity of serious results from its use in obstetrics, did not warrant its habitual use. The use of ether in natural labor was infrequent, because to relieve pain the patient must be profoundly etherized. Partial etherization only destroyed the ability to bear pain without obtunding sensation. Besides, Tait had demonstrated that ether passed rapidly into the circulation of the fœtus, endangering its existence. The mixture of nitrous oxide and air advocated by Klikowitsch required a special apparatus and was unwieldy. The ideal anæsthetic was one that was safe for both mother and child, certain in its effects, rapid in relieving pain without producing loss of consciousness, and the effects of which passed off quickly. All these demands were met by the bromide of ethyl. He mentioned one hundred and twelve cases in which it had been used, twenty-nine of which were in his own practice: none of the mothers died, and but three of the children. In none of the latter could death be attributed to its use. It was administered during the second stage of labor by placing a napkin wet with a few drops of the ethyl over the face at the advent of each pain, and withdrawing it as the pain subsided. Unless a drachm was used, the sensation of pain was obtunded without arresting consciousness. The process of labor was carried forward vigorously and quietly, the patient ready to exert or withhold voluntary aid, as her attendant might direct, and the expulsion of the head was attended by no greater pain than accompanied the evacuation of obstinately constipated bowels. His experience did not lead him to believe that its use would induce inertia uteri or increase the tendency to post-partum hæmorrhage.

Dr. D. M. Barr was much interested in this subject, and thought from this report that the indications for the usefulness of bromide of ethyl were favorable. He would like to know to what degree the patient returned to consciousness between pains. He would use bromide of ethyl as an experiment, but he would say that his old combination still gave him the very best effects with perfect safety. He had continued to use it in almost every case of labor since he made his report on Anæsthetics in Labor ("Med. and Surg. Reporter," March 13, 1880). He would feel some hesitation in using the bromide of ethyl, as it was dangerous, even if not so much so as chloroform. How would it act if mixed with ether? The objectionable qualities of chloroform and ether balanced and overcame each other, and the addition of alcohol to the mixture prevented their explosive action, so to say, for the sudden effect of a full and deep inspiration of the strong vapor of the anæsthetics was prevented by the admixture of alcohol in the proportion of chloroform one part by measure, ether three parts, and alcohol two parts. If a portion of this mixture was placed in a saucer and heated, it would all evaporate together—the ether did not pass off from the alcohol. This mixture soothed the pain and made the patient happy. The excited or drunken stage of etherization was avoided, and the danger from chloroform was avoided. Unconsciousness was unnecessary, and was not produced. If bromide of ethyl had any of the dangers of chloroform, they were not checked by admixture with arresting agents. Dr. Barr related the particulars of a case in which he had employed his mixture, to show how kindly it acted in cases of suspected functional heart disease. In this case its administration was continued for nine hours; the pain was relieved, there was no vomiting, and there was no effect upon the pulse.

Dr. R. P. Harris remarked that chloroform was considered perfectly safe as an anæsthetic in labor. Playfair, in his last edition, advocated it on this ground; but there had been fatal cases. The danger of an anæsthetic could only be ascertained after it had been used and reported upon by many observers, so as to get an average. Some men were careful and cautious, but all were not. The use of mixed anæsthetics was becoming more general in England.

Dr. W. M. Welch, upon invitation by the president, remarked that he had had no experience with bromide of ethyl, and but very little with other anæsthetics. He had given ether in one case, and a troublesome condition of intoxication had been developed. He was applying the forceps, and the patient suddenly seized one blade, and, wrenching it out of the vagina, tore the vulva. He preferred to get along without the use of anæsthetics.

Dr. Henry Seaman, upon invitation by the president, said that he also had had no experience with the bromide of ethyl. He did not hesitate to use ether in bad cases of labor, but he did not employ it when he could avoid it. He was not yet convinced that the use of anæsthetics in natural labor was advisable. There had not yet been formulated a satisfactory definition of natural labor. He was now engaged in studying that subject. He had observed in private practice most of the postures described by Engelmann in his papers on primitive obstetric practice. The sympathetic system in labor reacted upon the cerebro-spinal system, and produced the condition of nervous excitement which was seen in the patient, and which often extended to her friends, and even to the doctor. After close observation of over six hundred cases, he thought labor could be as natural a physiological operation as respiration, or the circulation of the blood, or any other function of the body, with this one difference, that, whereas the ordinary performance of function was pleasurable, in labor pleasure was replaced by pain. He was not in favor of the use of anæsthetics merely to remove or obtund this pain, as it was natural; and anæsthetics might interfere with the natural process and cause relaxation, or retard involution, resulting in that root of endless misery, subinvolution of the uterus. He had been making careful studies with a dynamometer, which measured the available pressure. He believed that it gave the sum of the pressure applied to the ovum, expressed in the projection of the advancing part, against which it rested. He would continue these studies, which were not yet complete. The action of the accessory muscles, such as the diaphragm and the abdominal muscles, took no real part in the expulsion of the fœtus, but merely embraced the uterus, preventing any rebound or loss of force when the ovum impinged against the pelvic walls or perinæum. Their action was to sustain or hold the uterus closely to its work. The entire force exerted was not nearly so great as was usually supposed. The force of labor did not exceed that of the arterial pressure, which he thought was about six pounds. The exit of the child was not violent, but gradual. It was a popular belief that a majority of labors occurred at night, but, of his six hundred carefully recorded births, an equal number took place between 6 a. m. and 6 p. m., and between 6 p. m. and 6 a. m. There were, however, two acmes, one at 11 p. m. and another between 7 and 8 a. m. These two periods corresponded to the times of greatest blood-pressure. He ranged himself on the side of those who believed in the non-necessity of the use of anæsthetics in natural labor.

Dr. W. H. Parish would like to hear more particularly from Dr. Montgomery, in his closing remarks, respecting the safety of bromide of ethyl as an anæsthetic. A few years ago it was introduced into surgical practice in Philadelphia, and was abandoned in consequence of its dangerous character. If it was dangerous in surgery, why should it not be dangerous in obstetrics also? Chloroform, which was at one time considered perfectly harmless in the latter practice, had been found to be no safer there than in ordinary cases. He had established for himself three rules respecting the use of anæsthetics in obstetric cases: 1. In easy, normal cases, no anæsthetic was required. 2. If the patient was nervous, excited, and uncontrollable, he gave chloroform at the beginning of each pain, to quiet the excitability and take off the sharpness of the pain without producing unconsciousness; during the intervals between pains the chloroform was withheld. 3. Whenever he considered that unconsciousness, full anæsthesia, was necessary, he employed ether, so as to avoid the depressing effects of chloroform. Bromide of ethyl might be used in place of chloroform, as indicated in his second rule, if it was shown to be equally safe; but he would not consider it proper to use it to produce complete relaxation, as required for version or the application of the forceps. Professor Wood, in his experiments, found bromide of ethyl more dangerous than chloroform. Dr. Parish did not now use it, and he feared it would go hard with any physician before our courts if he had a fatal accident occur during its use.

Dr. Barr thought Dr. Seaman's estimate of the force required to extrude a full-term fœtus was far below the mark. A child weighing seven pounds or over was pushed through a curved, horizontal, resisting passage with irresistible power, and sometimes rapidity. A force of six pounds would not lacerate a perinæum. In some cases there was but slight resistance, and the force required was small and the pain not severe. He had seen cows moaning from the severity of their pains during parturition. In one case recently a cat was delivered of its first kitten after severe and prolonged pain, and the second kitten required three hours for its extrusion. The pains of labor were more easily alleviated than the pains of surgery by anæsthetics, and with no increase, if not a diminution, of danger.

Dr. Montgomery, in closing, said that, as to danger from the use of bromide of ethyl, he thought there was none if a pure article was carefully used. The patient was not completely narcotized, consciousness was not lost: the administration of the drug was interrupted. The patient could co-operate, although relieved of suffering. She could answer questions. Professor Müller was the only one who had failed in obtaining good effects, and this was probably due to impurity in the drug. Bromide of ethyl did not take the place of chloroform, nor did it produce muscular relaxation, or relaxation of the uterus as required in version. Its use could be pushed to complete unconsciousness, but that was not necessary, as pain would be relieved without that, while the contractions of the uterus and respiratory muscles were fully as effective as without an anæsthetic. Labor was undoubtedly a physiological process—as much so as respiration or defecation, but it did "hurt." It was the type of the most severe and agonizing suffering, and we as physicians were called on to relieve that suffering and prevent the waste of vital force to as great an extent as we could by preventing pain—long-continued pain. Bromide of ethyl was apparently entirely safe when given as he had used it. Experimental physiologists did not all agree with Professor Wood as to the comparative danger of this and other anæsthetics.

BUFFALO OBSTETRICAL SOCIETY.

Meeting of March 24, 1885.

The President, Dr. W. W. Potter, in the Chair.

The Use and Abuse of the Tampon in Abortion.—Dr. J. W. Keene read a paper with this title. [See page 462.]

Dr. R. L. Banta said that he had not found the danger of inducing abortion by the use of the tampon so great as Dr. Keene and the authors he cited had stated. He formerly used the tampon if he found a woman losing a thimbleful of blood. Now, if he had plenty of time, he let it flow, but, if he was obliged to leave the patient, he tamponed. Much depended on the judgment of the physician; the older he grew the less he would fear hæmorrhage.

Dr. **Frederick** believed the indications for the use of the tampon were as stated by Dr. Keene. He considered the colpeurynter preferable to the old-fashioned tampon, and used it in his practice.

Dr. **Ingraham** said that, if a woman did not flow much, he felt at liberty to go away. He did not think the tampon always produced abortion.

Dr. **Stockton** had been rather frequently called upon to consider whether or not he would use the tampon. In the paper it had been pretty well stated when it should be used; but the question of using the tampon occurred at other times than those mentioned, for instance, after the escape of the fœtus, when there was retention of the secundines.

Dr. **Hartwig** would say that, if the tampon was to be used, the indications for its use had been correctly given. He was of the opinion that the tampon should be given up almost entirely. He had used it in some cases. He fully believed, as Schröder stated, that a woman would not bleed to death from abortion before the fourth month. The old-fashioned tampon would certainly excite uterine contractions; and the same might be said of the colpeurynter if sufficiently dilated to check the hæmorrhage. There were, however, other ways of tamponing, as with compressed sponge. Another way was to tampon the cervix through a speculum. He thought he would do the latter if he tamponed at all. But in hæmorrhage during pregnancy, and after the expulsion of the child, he had decidedly come to the conclusion that a tampon was unnecessary, because, if the bleeding was slight, the woman could bear it. Small doses of ergot, or even large doses—which never of themselves produced abortion—would check the bleeding. The life or death of the child ought to be decided with a good deal of probability. If the woman had bled much, and the cervix was patulous, we could be sure that the baby was dead. As a scientific ruling, he would put forth the idea that the tampon should not be used at all. Its real value consisted in exciting uterine contractions.

Dr. **Tremaine** was very glad to hear these views expressed. He did not practice obstetrics, except in consultation. Some years ago he used to do a great deal of midwifery. He never used a tampon but once, and never would again if he could help it. He thought it one of the most barbarous, unsurgical, and nonsensical things ever invented. Dr. Hartwig had expressed nearly his own ideas. He could not see any possible use for the tampon. He used to see much hæmorrhage, and was accustomed to control it by injecting alum-water into the uterus. He had never seen a death from post-partum hæmorrhage. When there was much bleeding, abortion was sure to take place. About the surest way to bring it on was to give opium.

Dr. **Lothrop** said that how these gentlemen practiced obstetrics and dealt with abortion in the second and third months without the use of the tampon he did not understand. It was an absolute necessity. He very seldom used it unless the life of the embryo was destroyed. How these gentlemen could see the woman lose such a large amount of blood when they could stop it with a simple plug he did not understand. When he had been compelled to use the tampon it had almost always been from retention of the secundines after the expulsion of the fœtus. He could not get along successfully in abortion without the use of the tampon. His way of using a tampon was to pack the vagina with cotton pledgets by means of a Sims's speculum. As for septic infection following the use of the tampon, it had never occurred in his practice. There were two symptoms he looked upon as important in abortion—pain and hæmorrhage; and the two things he recommended were opium and a tampon.

Dr. **Girard** had an opinion on this subject, and was willing to give it for what it was worth. He had had many cases of hæmorrhage of this character, and had tried many means to check it. When he found the os partly dilated and the cervix softened, he was satisfied of the death of the fœtus, and that the best procedure was to bring on rapid contraction and prevent further hæmorrhage. He believed the tampon in nearly every case would bring on abortion; so he would not use it while there was any chance that the fœtus was alive. If the physician was satisfied that the child was dead, he did not see that he could do better than to tampon.

The **President** said it was difficult for him to understand the import of the paper. In a general way, he inferred that its bearing was against the use of the tampon. He used the tampon himself, and had never yet used it, in more than twenty-six years, when he regretted it. He used the tampon for two purposes: first, in extreme cases, to save life, and more especially to avoid the loss of blood. He thought gentlemen made a mistake when they allowed their patients to bleed one ounce. He would say that no man should undertake to practice obstetrics in this day and age and permit his patient to bleed. If he did not succeed in the use of the tampon, it was because he did not use it right. He was certain that in case of violent hæmorrhage the only way to control it was to put the patient in Sims's position, and pack the vagina so tight that there could be no hæmorrhage. If he was called to a case of threatened abortion, and found the os open and the fœtus not accessible, he would not commence by tamponing if he lived near by; but, if he lived ten miles away, he would tampon the woman for her own safety, and he would be pretty sure that, on removing the tampon the next day, the fœtus and secundines would drop into his hands. After the escape of the fœtus and retention of the secundines, his practice would be to remove them if he could. If he could not do so with tolerable ease, he would tampon. He would not allow the patient to suffer the loss of four ounces of blood. In reference to ergot, gentlemen might give it, if they pleased, in threatened abortion with a hope that it would prevent hæmorrhage; but they should not rely on it. He had come almost to think it nearly useless. He did believe in the use of the curette in removing detritus, and then brushing over the cavity with Churchill's tincture of iodine; then, if there was any danger of hæmorrhage, the vagina should be tamponed.

Miscellany.

The State Charities Aid Association.—In a circular lately issued by the Board of Managers the statement is made that the chief value of the work of the association lies in the improved condition of the institutions visited by its local committees, in the stimulus given to public interest in such institutions, and in the progressive enlightenment of public views concerning them. In counties apparently the most hopeless, where the administration of the poor laws was formerly a disgrace, reforms have been effected, says the circular, which have raised their institutions to a level with the best. The managers believe that the value and the need of unofficial visitation of public charities are recognized by the community at large, and that the practical methods adopted by the association to this end are approved of whenever they are thoroughly understood. We are glad to learn that the work of the association is so highly appreciated, for it is a most deserving organization.

Midwives in Erie County.—The "Buffalo Medical and Surgical Journal" gives a summary of the provisions of a bill now before the Legislature for the licensing of midwives in Erie County, and expresses the opinion that the provisions of the bill are so entirely just to the midwife, so conservative of her best interests, and so far from containing onerous requirements, that it will probably not meet with any formidable opposition. The bill was drawn by a committee of the Buffalo Medical and Surgical Association, and has the indorsement of the Medical Society of the County of Erie. It provides that on or after July 1, 1885, the County Judge shall appoint an examining board of five physicians, and prescribes the method of filling vacancies in the board. It designates the officers of the board as a president, a secretary, and a treasurer, and requires the adoption of rules for the conduct of the examinations. The board is to meet on the first Tuesdays in April and October in each year, for the examination of all candidates who present themselves, provided they are of lawful age and of good moral character. The fee for the examination is to be $10, and shall be applied toward defraying the expenses of the board. A successful candidate shall be designated as a midwife, and shall receive a certificate entitling her to attend any case of normal labor, but it is provided that she shall not use instruments, attempt version, or administer any dangerous drug, except when the attendance of a physician can not be procured. The revocation of the certificate for cause is provided for, and after December 31, 1885, midwives are forbidden to practice, except in accordance with the provisions of the bill, under penalty of a fine of not less than $50 or more than $100.

The Virginia State Board of Medical Examiners, made up of three physicians from each congressional district and two from the State at large, nominated by the State Medical Society and confirmed by the Governor, began its first meeting on the 10th inst., and conferred licenses to practice on nineteen candidates.

The Treatment of Whooping-Cough.—In his summary of treatment, in a clinical lecture delivered at the Philadelphia Hospital ("Medical News"), Dr. John M. Keating emphasizes the value of the steam spray and the atomization of medicated solutions, among which he ascribes value to Dobell's solution, eucalyptol, and thymol. With the bichloride he advises caution. Corrosive sublimate, which is now used for almost everything, he says, has also been applied here in the form of the spray. He remarks that it is a dangerous drug to put into the hands of an inexperienced person, and, as we have so many other useful remedies for this affection, he thinks it wise to avoid the use of corrosive sublimate. He has used listerine extensively with good results in the treatment of whooping-cough. He employs it in the strength of one drachm to two ounces of water, with an ordinary hand-atomizer, directs the nurse to apply it twelve or more times a day, and finds that little children, even babies, do not object to it. He adds to it tincture of belladonna, potassium carbonate, or ammonium bromide, as the case may demand. Chloride of ammonium he also finds of great service in the form of spray.

The Biarritz International Congress of Hydrology and Climatology will hold its first session at Biarritz from the 1st to the 8th of October, 1886. M. Durand-Fardel will preside, with the Minister of Commerce as honorary president. A number of interesting questions connected with balneology and climatology will come up for consideration, and excursions will be made to various health resorts in the Pyrenees, for the purpose of studying the operation of the establishments.

THERAPEUTICAL NOTES.

Resorcin in Skin Diseases.—Cattain ("Monatsh. f. prakt. Dermatol."; "Dtsch. Med.-Ztg.") uses the following ointment with great success:

Resorcin	30 to 60 grains;
Vaseline	5 drachms.

He speaks highly also of applications of a one-per-cent. solution of resorcin in dermatitis, bed-sores, and even epithelioma of the skin. In erysipelas he applies to the affected parts, every three hours, compresses wet with a two- or three-per-cent. solution.

Citrate of Iron in the Treatment of Cholera.—Ciaramelli ("Riforma medica"; "Dtsch. Med.-Ztg.") recommends subcutaneous injections of a ten- or twelve-per-cent. solution of citrate of iron in the algid stage of cholera. About three minims should be injected at a time, and the process should be repeated twice or three times a day until the temperature rises above the normal (to 102° F.); as soon as it becomes subnormal the injections should be resumed. He reports thirty-five cases treated by this method, in twenty-eight of which it was successful. The caution is added that it may be necessary to dilute the solution of iron in order to avoid abscesses at the points of injection.

Chrysophanic Acid in the Treatment of Psoriasis.—Besnier ("Morgagni;" "Dtsch. Med.-Ztg.") proposes the following modification of Auspitz's treatment of psoriasis: After the scales have been removed by washing with black soap, the affected parts are penciled with a solution of three drachms of chrysophanic acid in three ounces of chloroform. When the coating has evaporated, a second application is made with a mixture containing three drachms of gutta-percha and three ounces of chloroform. Two applications a week are generally required.

Injections of Turpentine in the Treatment of Malignant Tumors.—Professor Vingt ("Revista de las Ciencias Médicas"; "Dtsch. Med.-Ztg.") has employed deep injections of a mixture consisting of one part of turpentine and two parts of alcohol, the needle being introduced into the tumor as far as possible. A local inflammatory process results, which is followed, the writer states, by a partial or complete disappearance of the growth.

Andira Inermis.—Midy ("Nouveaux remèdes") speaks highly of the decoction of this plant as an anthelmintic. On account of its smart narcotic effects, it should be administered at first in small doses, which can be gradually increased. The occurrence of nausea is a proof that the maximum dose has been attained. The writer directs that an ounce of the bark be boiled in a quart of water until the decoction assumes a wine color. Two ounces of the liquid should be given to an adult, and two teaspoonfuls to an infant. The active principle is a glucoside, *andirin.*

A Urethral Ointment for Gonorrhœa.—Unna ("Dtsch. Med.-Ztg.") recommends the frequent introduction of a sound smeared with the following:

Nitrate of silver	30 grains;
Peruvian balsam	60 "
Yellow wax	1 to 2 drachms;
Cocoa butter	6 ounces.

Pills for Spermatorrhœa.—De Sinéty ("Union méd.") proposes the following pill:

Extract of belladonna, Powdered belladonna-root, each	3 grains;
Confection of rose	q. s.

Divide into ten pills. One to three pills should be taken before going to bed.

The following pill also is efficacious, according to the same writer:

Camphor	1 grain;
Lupulin	2 grains.

This treatment is specially adapted to seminal emissions resulting from spasm of the seminal vesicles; if, however, the spermatorrhœa is due to atony of the parts, the author prefers to give this mixture:

Powdered ergot	6 grains;
Powdered nux vomica	1 grain.

Divide into three pills. One to be taken morning and evening, before eating. Cold douches and applications of camphor liniment to the small of the back are to be employed at the same time.

A Remedy for Corns.—Tavignot ("Courrier méd."; "Dtsch. Med.-Ztg.") commends the daily application of phosphoreted oil (1 part to 300) as a radical cure for corns.

An Application for Chilblains.—Vigier ("Lyon méd.") recommends the following:

Tannin	8 grains;
Glycerin (30 per cent.)	5 drachms;
Rose-water	3 ounces.

The Treatment of Conjunctivitis.—Abadie ("Prog. méd.") recommends the following lotion for simple conjunctivitis:

Boric acid	5 drachms;
Distilled water	20 ounces.

To be used five or six times daily.

Lectures and Addresses.

AN ADDRESS

DELIVERED AT THE MEETING OF THE
AMERICAN MEDICAL ASSOCIATION
IN NEW ORLEANS, APRIL 29, 1885,

By HENRY D. DIDAMA, M. D., SYRACUSE, N. Y.,
CHAIRMAN OF THE MEDICAL SECTION.

THE prescribed duty of the chairman of the Medical Section is to acquaint you with the progress made during the past year in materia medica and the practice of medicine. A literal compliance with the mandate would subject you to a wearisome recital of facts and fancies which have been gathered already by enterprising medical journals, and scattered broadcast throughout the world. The spirit of the injunction may be honored by the omission of minor and as yet unestablished additions to our armamentarium, while a few comments are made on the two recent discoveries which have not entirely escaped popular and professional attention: comma bacillus and hydrochlorate of cocaine.

The prompt and unprejudiced experiments made with the new local anæsthetic, the cordial, enthusiastic, and universal acknowledgment of its merits, are a sufficient refutation of the charge that the medical profession is hampered by a blind and dogged conservatism. The drug is still in its infancy. Its anæsthetic properties are so remarkable that its use has been limited mainly to surgery, and especially to operations on the eye. But, that it has a valuable future in medicine also, there can be no doubt. Its ability to produce contraction of congested blood-vessels and pallor of the mucosa early suggested its probable utility in various pathological conditions. Used as a collyrium in conjunctivitis, and in the form of spray in acute and chronic nasal and laryngeal catarrh, it has been of greatest service, not only as an adjuvant, but as the principal remedy. Speakers and singers afflicted with sudden and even persistent hoarseness and aphonia have found speedy relief and a restoration of vocal functions. It is not improbable that, used with the atomizer, it may mitigate the severity of the paroxysms of pertussis, and alleviate the dreadful distress of tubercular laryngitis. Internally—if its price shall not continue to forbid its general employment—it may be found serviceable in gastric irritation and catarrh; and, like the leaves from which it is extracted, it may prove to be a quick and powerful muscular invigorator.

The brilliancy of the discovery of the comma bacillus by the already immortalized Koch is universally admitted; but the claim that this microbe is the pathogenetic factor in cholera is stoutly denied by some eminent observers. This denial is echoed by many worthy people who are constitutional doubters, and who habitually substitute prejudice for patient investigation. It is asserted, on the one hand, that the comma is not pathognomonic of Asiatic cholera, being found in the dejections of cholera morbus, and even in healthy oral secretions; and, on the other hand, that in many cases of Asiatic cholera it is entirely absent, and that if it happens to be found its presence is a harmless coincidence. So confident has been this skepticism that its devotees have actually indulged in cholera dejections, swarming with bacilli, as a beverage. Surviving the somewhat repulsive experiment, the inference has been drawn that these microbes have no infectious properties. Klein and others have demonstrated that the tank-water in various parts of India is fairly alive with these punctuating bacilli, and that the natives drink it and them with avidity and impunity. The poor, maligned comma microbe seems now in a fair way to have a reputation for innocence fully established.

His brother, the bacillus of tubercle, had a similar checkered experience. Miliary tubercle, it was asserted, identical with that caused by the bacillus, could be produced by inhalations of glass-dust or by inoculations with any inert substances. One zealous doubter hastened to proclaim that the microbe was a base impostor; that what seemed to be a living organism was simply a masquerading fat crystal. But more extended observations, and experiments which excluded former sources of error, have so established the morbific character of this microbe that the affirmation may be made with some assurance: *every tubercle comes from a bacillus.* In regard to the comma, Klein, in a recent discussion, admits that while this bacillus in and of itself is harmless, it yet does excrete or produce a virus or poison which causes cholera; so that, after all, the comma is actually essential to the existence of cholera; and the formula is justified: *no comma bacillus, no cholera.* Let it be admitted that the harm is done not by the living microbe, but by some dead excretion. Still, as there can be no excretion without an excretor, the comma can not be allowed thus to shirk responsibility. The common law maxim, *qui facit per alium facit per se*, will hold the principal liable for all the legitimate actions of its representatives. It is admitted by Klein and his supporters that the poison produced by the bacilli is self-multiplying. Then it must be alive; for a dead excretion has no power of propagation. And if it be alive it must itself be a microbe, the vicious offspring of the amiable comma. So that at last the contending parties occupy the same platform, one party laying the blame upon the mother microbe, the other party insisting that guilt rests on the wicked daughter.

Too much admiration can not be felt for the army of patient and zealous investigators who brave danger, who sacrifice ease, who spurn lucrative pursuits in their devoted hunt among uncanny objects for some new minute enemy of the human race. They deserve all the plaudits which they receive. But does not truth compel the sad confession that bacteriology, with all its brilliant discoveries, has furnished little help to what is of the greatest practical importance to physicians and patients: the art of healing? The fatal march of consumption has not been arrested, and its treatment has not been even modified by the discovery of the bacillus. The dreadful disease still continues to kill one sixth of the human race, and its ravages would not cease even if the bacillus could be exterminated; for consumption exists and runs its deadly course where no tubercles are present.

No new remedy has been suggested by the discovery of the cholera microbe. It is known that this bacillus thrives in alkaline soils, and has its growth and propagation hindered or arrested by acid conditions. But the acid treatment of cholera was employed with some success more than a decade of years before it was known whether the cause of the disease was shaped like a comma or an interrogation-point.

Ague yielded to Jesuits' bark ages before the *Bacillus malariæ* was dreamed of; and the knowledge that vegetable germs are the fountain and origin of the complaint has not added one jot to our ability to manage it. These facts are admitted, but they do not detract from the merit of the germ-seekers.

No practical—certainly no commensurate—good has come from Arctic explorations. But Franklin and Kane and Greely, and all their noble associates, deserve honor and reward, not for what they achieved, but for what they attempted. Let the spirit of inquiry suffer no discouragement. The ugly duckling becomes at length the beautiful and graceful swan. The helpless and useless babe grows into vigorous manhood in time. Through untold ages the sun has been sending to us line upon line ardently acknowledging our good mother earth as his beloved daughter. The messages were unseen by dull mortal eyes till the Bavarian optician, Fraunhofer, came. He discovered the affectionate hieroglyphics in the solar spectrum, but he could not decipher them. He did what he could. He patiently observed and measured and honestly recorded five hundred and seventy-six apparently meaningless lines. And then he waited for the advent of some Champollion capable of furnishing an interpretation. For forty-five years the epistle remained untranslated. Then Kirchhoff, another German, after much patient search, revealed to us the kinship of things terrestrial and celestial. Some good, let us hope, will yet come from the cruel and murderous Arctic explorations.

In some way mycology may aid in preventing and curing disease. Let us labor and wait. But may we not, with all due humility and deference, suggest to our friends, whose eyes are worn out looking through their fiftieth-inch objectives, that the shape of the microbes, or even their behavior in cultivation fluids, is no longer of supreme importance? Is it not time that a little more attention be directed toward discoveries in prophylaxis and therapeutics? Already the antiseptic precautions introduced by Lister have been of incalculable benefit to surgery. Those who decry Listerism, and claim that cleanliness is sufficient, actually pay tribute to the genius of the great antiseptic apostle. Dirt is harmful only because it contains noxious germs; cleanliness to the extent that it excludes these germs is asepticism; and asepticism is Listerism. We await the advent of some medical Joseph who shall discover a germicide which is not a homicide at the same time.

These remarks are introductory to my brief and fragmentary address.

The mycologist is inclined to claim that a legion of diseases arise from micro-organisms. Included among them are the exanthems, typhus, typhoid, and yellow fevers, diphtheria and mumps, tuberculosis, venereal indiscretions, and cholera asphyxia. Included also are complaints like pneumonia, whose contagiousness is not generally admitted, and rheumatic and malarial fevers which are non-contagious. It is not pretended that the specific *contagium vivum* of every one of these complaints has been demonstrated by propagation experiments. But as the spirillum of anthrax, the micrococcus of diphtheria, the bacillus of phthisis and cholera have been captured and exhibited and caused to multiply, the inference—conjecture, if you choose—does not seem forced that all diseases which resemble these specified in having contagious properties, or a period of incubation, or a definite cycle, or capabilities of preventing subsequent attacks, have as their causes certain minute, even if undiscovered, organisms. Further observations will be made. Alleged discoveries will be subjected to rigorous investigation. The false will be brushed away. The truth will be established. Carping criticism will yield to peaceful acquiescence.

The neurologist is confident that a multitude of complaints have their origin in the nervous system. And he has good grounds for his opinion. Fever as a neurosis is the subject of an able paper by an eminent writer at this very session of our Association. That a high temperature —the highest recorded—has resulted from injuries of the spinal cord—and where the influence of microzymes is excluded—is not a matter of question. In one instance the temperature reached 122° F., and remained for seven weeks between 108° and 118°. The patient was a lady; the result was recovery. An incidental inference, which I will not press, is that if recovery can take place after a continuous average temperature of 115° for nearly two months, it is not the fever which kills or produces rapid softening of the heart and other organs in fatal cases of typhoid. Whether there are special calorific nerves which may be stimulated, in moderately severe spinal injuries, to increased production of heat, or whether, from continuous compression of the nerves, heat is produced by increased resistance —as in the galvano-cautery—are questions which may merit investigation. Fever, so far as it consists in elevation of temperature, can be a simple neurosis.

That rheumatism involves the nervous system, even if it does not originate in it, may be inferred from the erratic behavior of the joint affections in rheumatic fever, and from the causes of arthritis deformans, which are often grief, care, prolonged anxiety, and injury or disease of nervous centers, as shown by Charcot, and ably presented by Ord at the last meeting of the British Medical Association. Many cutaneous affections, notably zoster, urticaria, and eczema, are of nervous origin. Pneumonia sometimes arises from injury of the brain. Diabetes, both the glucose and the insipid varieties, can be produced, as is well known, by irritating certain nerve-centers. Some kidney diseases and liver complaints are the result of persistent nervous disturbance.

The humoral pathologists still adhere to the belief that our physical ailments arise from disorders of the blood. Plethora has its numerous attending evils, congestions, hæmorrhages, cardiac disturbances. Anæmia is the prolific parent of a thousand aches and pains, of indigestions, palpitations, mental and physical debility. Blood containing an excess of a certain element causes diabetes. Contaminated with another, it occasions Bright's kidney and diseases of the urinary tract. Rheumatic fever, with endo- and pericarditis and permanent valvular disease, is produced by the ingestion or injection of a certain acid, and its absorption into the blood, as shown by the experiments of Richardson and Foster. This acid is produced normally from certain elements of the food. It is transformed before reaching the systemic circulation. Produced in excessive quantity, or failing to be transformed, it poisons the blood—as it does when introduced experimentally—and causes rheumatic joint affections and cardiac lesions. As is well known, these endocardial disturbances and valvular injuries are limited almost exclusively to the left heart. The right heart escapes because the acid is normally present there, and so an accustomed stimulant. The transformation is effected in the lungs. In failure of this transformation, the acid passes into the general circulation, and, being an unaccustomed stimulant, poisons the left heart and works its well-known mischief. Many dermatologists believe that certain cutaneous affections are caused by impure blood. Eczema is one. The solidists pin their faith to cellular pathology.

We need not be confused by this conflict of opinions. Neither of the views is exclusively true; neither is wholly false. Living foreign organisms; the nervous system; effete impurities of the blood; disorder of the minute cells of which every part of the human frame is constructed—each of these may be a factor in the origination of disease, each may be first or midway or last in the vicious circle of causes — the ætiological round robin. Germs may develop a countless brood and contaminate the blood, either by their own abnormal presence or by a poison which they exude. This poisoned blood stimulates or obstructs the nervous system and the heat of fever is developed by the correlation of forces. The presence of certain microbes is made known to the nervous centers. A mandate is sent to the vaso dilators of the lung; congestion and pneumonitis result. Some irritation at the origin of the vagus produces hyperæmia of the liver, over-production of sugar, impairment of the transforming power, disturbance of the kidney, and diabetes. From disordered digestion an abnormal condition of the blood may result; the nervous system may become involved. Gout may be a product, sometimes appearing in its true character as a torturing joint affliction, and sometimes masquerading as eczema or asthma.

The blood, the nerves, the cells, the microbes are thus seen to have a pathogenic partnership harmony, and to be interdependent. Without the aid of the nervous system there could be no fever. But the nervous system alone can never originate any specific fever, typhoid, or rheumatic, or pneumonic. Rheumatism is intimately associated with a poison in the blood, but the excessive production of the poison and its circulation in unwonted vessels are the result of abnormal nervous influence.

From the ovum to the cadaver, man is constantly exposed to this conspiracy of morbific influences and agents to destroy him. There are foes without and foes within; foes which march up in front and boldly smite him in the face; foes which approach insidiously and undermine him; foes which are so attractive that he counts them as friends, till he finds himself dangerously smitten under the fifth rib. The destructive influences and agents are in the air he breathes, the food he eats, the water he drinks, and a hundred-fold more in the substitutes for water which he imbibes. These foes are the accidents and sudden dangers which he encounters; the misplaced switch of the railroad; the lurking miasm, the infected air, the defective drainage, the insufficient light which sap the foundations of life. They are the seductive habits and vices which sparkle and smile, and then bite like the serpent and sting like the adder. These morbific foes find access to the citadel of life through sometimes one avenue and sometimes another. This one comes in through the blood which it poisons, that one along the path of the nerves which it throws into abnormal vibrations, and the other creeps from cell to cell, corrupting and enfeebling every fiber and tissue. Whatever the manner of entrance, the result is the same: nerves and blood and cells all become at length involved in the mischief.

To counteract these ruinous influences and agents—to fight with greater or less success against the open and concealed enemies, many means of defense and attack are provided. There is wisdom gained by observation and experience. There is the obtainable skill of the sanitarian and physician. There are certain inherent powers of resistance and recovery which, ever on the alert, are more potent protectors than that human wisdom which often sleeps; than that human skill which sometimes gropes and sometimes blunders.

We are familiar with what is called the *vis medicatrix naturæ.* It is a power which is sufficient in many—perhaps most—cases of disease to effect a cure. Sometimes it brings relief while the physician simply watches or gives inert drugs—and claims all the credit. Sometimes it corrects disorders with the well-timed aid of the doctor. Sometimes it triumphs over the combined attack of the disease and the blundering medicine-man. This reparative power is the best friend and ally of the wise physician. It may be too weak to accomplish its purpose, and so may need timely and sufficient aid. It may overdo the matter, and so need wholesome restraint. It may be irregular in its action, and so need careful guidance.

Now, while we are familiar with this reparative power, we may not be so attentive to another conservative force which is especially important: the resisting power. From the *vis medicatrix* this power differs essentially. One is a restorative force—a tendency to come back to the normal condition after departure from it.' The other is the conservative force, which *prevents* departure. A steel spring yields readily to external force, but its elasticity—after the disturbing cause is removed—enables it to resume its original condition. This is the *vis medicatrix.* Granite rock is not easily affected by external violence. Its power of resistance is great. When the force brought to bear upon it is strong enough to cause it to yield, it goes to pieces, having no recuperative power. There may be great toughness combined with great resisting power. The iron-clad vessel, when struck by ponderous ball or steel bolt, may be perforated, but it is not hopelessly shattered. This resisting power is akin to what is called inertia in physics—the tendency of a body in motion to keep going; of a body at rest to remain quiet for ever. Light bodies with little substance are easily set in motion, and easily deflected from their course, or arrested in it. A feather can be wafted or stopped by the lightest breath. A cannon-ball, an avalanche, are turned aside by no obstacle; they move onward to their destination.

Every human being has more or less of this resisting power. It may be feeble and yet so united to a recuperative force that the individual possessor manages to get along fairly well. Any trifling mishap or exposure may prostrate him, as a reed may be shaken in a moderate wind; but his elasticity, like that of the reed, brings him up promptly when the storm ceases. He has his frequent ups and downs—we all know many such cases; he is delicate of constitution; he may be like an estimable old lady of my acquaintance, at the point of death at odd spells for thirty years; and yet he lives on by virtue of the *vis medicatrix*, of which he seems to be composed, till all his acquaintances have passed off the stage of action.

On the other hand, this resisting power may be like that of the granite. Its owner may violate all sanitary laws, may laugh to scorn all counsel about what he should eat or drink, or wherewithal he should be clothed. He may expose himself unprotected to cold and wet. He may go without sleep and food. He may tax stomach and brain and muscle to the utmost. And yet he may remain undisturbed. We know such men—men who guzzle poor whisky every day, and live to be a hundred years old. We know men of granite constitutions who prowl around late at night when they should be snugly in bed; who gormandize, who exercise vigorously all the vices; and yet who remain a standing refutation—as superficial observers think—of all rules for preserving good health. But when some overwhelming calamity comes they are stricken down for ever; their first illness is their final one; they crumble to atoms.

In every community are those whose resisting power is so feeble from inheritance or so thoroughly impaired by excesses that they are but walking dead men—apples of Sodom, perhaps—fair to look upon, but ashes or putrefaction at the core. They yield to influences which are trivial in their nature, and go into the hands of the undertaker before their neighbors have even heard of their illness.

There are children of old or debauched or scrofulous parents, whose resisting power is so nearly *nil* that their aspirations to stand with the angels receive early gratification, in spite of all that love and skill can do to keep them away from their heavenly home. We name the messenger who summons them cholera infantum, or tuberculous brain disease, or white swelling; and as parents, while we wonder at the mystery, we bow submissively to Him who gives and then takes again so soon. But as physicians we are not surprised that diseased and mushroom cells should hasten to early destruction. No man liveth for himself alone. The good constitution, the strong resisting power of the temperate and upright man, is not only a sure personal defense against diseases and a guaranty of longevity; it is transmitted to his offspring down to many generations. The dissolute man, broken down with diseases acquired while sowing his wild oats, suffers not alone. If he did, we might view the transaction with mitigated sorrow. He had his coarse enjoyment, and he can afford to reap corruption. But the evil that he does lives after him in the blighted and wretched lives of his innocent children and his children's children. A priceless inheritance is a strong resisting combined with a vigorous recuperative power. He who has it and preserves it and fortifies it, living a clean and active life, eschewing bodily and mental excesses, and clings to the Divine promises, may bid defiance to disease in its multifarious forms. He need not be afraid for the pestilence that walketh in darkness, nor for the destruction that wasteth at noonday. Free from fear—the greatest depressant—he shall walk unscathed through all perils. A thousand may fall at his side and ten thousand at his right hand, but disaster shall not come nigh him. And, even when the onslaught of disease can not be wholly warded off, the wounds inflicted shall have speedy healing.

Original Communications.

NOTE ON ANTIPYRINE.*

By GLENTWORTH R. BUTLER, M. D., Brooklyn,

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The conservative physician is apt to regard new remedies with distrust. The list of therapeutic novelties is practically endless, and the catalogue of failures well-nigh as long. Out of the mass of novelties, however, there is sometimes evolved a trustworthy therapeutic resource. This statement applies to antipyrine. There is a remarkable unanimity of opinion in the published reports of the not inconsiderable number of those who have made it the subject of clinical observation. The stage of experiment is obviously past, and only a larger clinical experience is needed to positively outline its indications and uses. During the past two months of my service as visiting physician to the Department of Diseases of the Chest in St. Mary's General Hospital, a trial of the new antipyretic was suggested by Dr. B. F. Westbrook, the head of the department, whose attention was drawn to it by a perusal of Gutmann's monograph. The interest manifested was such that I feel justified in presenting a *résumé* of the acknowledged properties and uses of antipyrine, with a very brief summary of results obtained by its administration in some cases under our observation.

To Dr. Knorr, of Erlangen, belongs the credit of producing antipyrine. It is an artificial product, a synthetical alkaloid, obtained from coal-tar, being chemically a dimethyloxyquinine, and occurring in the form of a chloride. It is a grayish-white powder, with a slight tarry odor, and a somewhat bitter but not positively disagreeable taste. It dissolves easily in alcohol. It is soluble in one part to three of cold water, but requires only half its weight of warm water to make a solution from which it will not deposit, or but very slightly, on cooling. Alkalies added to the solution will liberate it, perchloride of iron will cause a reddish-brown color to appear, and potassium chlorate produces a yellow deposit. Nitrous acid will color it green in a solution as dilute as 1 in 10,000. The powder will darken by long exposure to light.

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* Read before the Medical Society of the County of Kings, March 17, 1885.

Its physiological action has been investigated by Demme, of Berne, in frogs and rabbits. A large single dose (five grains for the former, twenty grains for the latter) will cause death in half an hour by paralysis. With small continued doses (frogs, half a grain; rabbits, seven grains), irritation of the central nervous system and vaso-motor centers was produced, manifested by tetanic muscular spasm and rise of arterial pressure. If the administration was still continued, paralysis of these centers as a result of over-irritation was observed. It was evidenced by loss of reflex muscular excitability, and, notwithstanding the healthy condition of the heart-muscle, lowering of the blood-pressure.

Filehne, of Erlangen, was the first to use antipyrine in the practice of medicine, and since then numerous others have employed it. Its particular utility lies in the treatment of fever as a symptom, without regard to its ætiological relations. The statement can be made positively that the administration of antipyrine will cause a prompt and decided reduction of the body-heat, without any but the most trifling disadvantages, and in the great majority of cases without unpleasant results. A concomitant improvement in the frequency and force of the pulse takes place. The respiration becomes slower and deeper. Patients will express themselves as feeling remarkably well, and there is a decided brightening of the intellectual faculties. The original method of administration advised by Filehne is to give, in adults, a first dose of thirty grains, followed in an hour by thirty grains more, and, if necessary, at the end of the third hour an additional dose of fifteen to thirty grains. The fall of temperature commences in half an hour from the ingestion of the first dose, and continues until the fifth hour, when it gradually rises. The fall will last from seven to twenty-four hours, a fair average being twelve hours. The lowering of the temperature is sometimes accompanied by sweating, but during its subsequent rise no chill occurs as with kairine. The amount of the fall varies from 2° to 6° F., according to the height of the fever and the amount of the drug ingested.

The disadvantages pertaining to its use are slight. In spite of the rapid reduction of the body-heat, in only four or five out of the large number of reported cases was there any depressing effect produced on the heart, and then only when the doses were rather large. Demme reports a case of typhoid fever in a child of two years and a half, where, through mistake, two hourly doses of four grains were given. The temperature fell to 95° F., with fluttering pulse. Pribram mentions a case of collapse in a tuberculous patient with pneumothorax where one drachm had been given, and May one in a weak person with small pulse. All these patients recovered. The hypodermic use of caffeine will counteract the slighter grades of poisonous effects. Profuse sweating is seldom observed, and still less frequently an erythematous eruption resembling measles, attended with itching, and continuing three to five days. Vomiting occasionally occurs, but not so frequently as with quinine, and the drug can be readily given by the rectum or hypodermically. On the other hand, it does not produce ringing in the ears, deafness, dizziness, and fullness in the head, such as result from quinine and salicylic acid. It is free from the inconvenience, shock, and uncontrollable action of the cold bath. Although antipyrine has been used in a number of febrile diseases, its best effects have been manifested in typhoid fever, phthisis, and pneumonia. In typhoid fever it causes the longest apyrexia, and apparently shortens the duration of the disease. The intellect remains notably clear, and the appetite continues good. In the great majority of cases no relapse or complications occurred.

In phthisis it prolongs life by preventing rapid tissue-waste consequent upon high temperature, and improves the appetite greatly. It is by all odds the most efficacious means of reducing the temperature in this very obstinate class of cases.

In pneumonia, while not abridging the duration of the disease, it increases the probability of a successful recovery. It decidedly lessens the subjective distress and dyspnœa, the respirations lessening in frequency, but the pneumonic pulse-respiration ratio still existing. In intermittents the fever is frequently arrested, but, as the new drug is an anti-pyretic, not an anti-periodic, its reappearance is not prevented.

It has been used with good effect in erysipelas, pleurisy, scarlatina, and acute rheumatism, and, indeed, in all diseases, both surgical and medical, attended with high temperature. In diphtheria, if used at all, it should be given with caution, on account of the great debility of the heart in that affection.

It may be administered in powder or solution. If prescribed in powder, it is best to dissolve it in wine at the time of use, otherwise the coloring-matter of the wine is precipitated by it. A solution made with water can be used, but the best excipient, and the one which we have used at St. Mary's, is syrup of tolu. The slightly bitter taste of the drug is completely disguised, and children take it very readily. It can be given by the rectum. Its use hypodermically has caused no local irritation. A solution of antipyrine in half its weight of warm water will produce no deposit on cooling, and is suitable for subcutaneous injection. As to the dose, the general rule is to give it in double the usual quantity of quinine. In children under one year of age, three grains, under five years, seven grains, in adults, thirty grains can be administered, and followed by two doses, of half the quantity of the first dose, at intervals of one, two, or three hours, according to indications. It is preferably given in the afternoon, so as to anticipate the usual evening exacerbation. In tuberculosis it is often advantageous to give it earlier, as the temperature frequently rises by the middle of the day. Knowing the usual prompt and sure effects of the drug, it is generally easy to individualize each case, and vary the quantity and time of administration accordingly.

Antipyrine was used in fifteen cases in the chest wards of St. Mary's. I do not propose to give any account of our observations except in the most general way, as they confirm with the utmost precision all the published reports. The cases embraced two of croupous pneumonia and one of broncho-pneumonia in children, and twelve cases of phthisis in adults, attended with high temperature and rapid tissue waste. In the first case of lobar pneumonia, in a child of five years, the initial evening temperature on January 20th was 104·5° F. The administration of antipyrine was commenced at midnight, in four-grain hourly doses repeated four times. At 9 A. M. on the 21st the temperature had fallen to 101°. The evening temperature of the 21st was 103°. Antipyrine was resumed as before, bringing the thermometer down to 100° at 9 A. M. on the 22d. On the evening of the 22d the temperature was 104°. Antipyrine was given as before. At 9 A. M. on the 23d the temperature was 98°, with slight sweating. From this time on the temperature rose only once beyond 100°. Convalescence commenced on the seventh day, and was remarkably speedy and perfect. The second case, in a child of six years of age, was a counterpart of the first, except that one subnormal temperature of 97° was registered on the fifth day, and was coincident with, and probably caused by, defervescence setting in and acting with the antipyrine to depress the body-heat. Slight stimulation brought it to the normal, and recovery was prompt and rapid. These two patients received no medication besides antipyrine. The third case, one of broncho-pneumonia, in a child of five years of age, exhibited before the administration of antipyrine an average temperature of 102°. The drug was given every afternoon, in three doses of ten grains each, at intervals of two hours. The temperature afterward averaged 100°. On the seventeenth day convalescence began, but has progressed slowly, the patient being congenitally weak and ill-nourished.

In the twelve cases of phthisis, sweating due to the drug was noticed three times. Its effects have been uniformly favorable in reducing temperature, increasing appetite, and producing a sense of well-being. It is extremely interesting to observe the abrupt drop in the temperature curve, coincident with the administration of antipyrine. A forty-grain dose in one case brought the body-heat from 105·5° to 102·5° in one hour, a fall of three degrees. In another, thirty grains lowered the temperature from 102·5° to 99·5° in two hours. In our experience, neither vomiting, erythematous eruption, nor any other bad effect has been produced.

I am indebted to Dr. W. F. Gardiner, and Dr. J. C. Bowker, house physicians, for careful observations and records of cases, and to the latter for verifying the most convenient test for antipyrine in water and in urine, viz., the addition of perchloride of iron, which produces in watery solutions a reddish-yellow, and in urine a reddish-brown coloration.

To summarize:

1. Antipyrine is a certain, safe, and powerful antipyretic in almost all diseases attended by high temperature, but it is not an antiperiodic.

2. It is especially useful in typhoid fever, pneumonia, and phthisis, producing the apyrexia of quinine, salicylic acid, and cold baths, without the concomitant unpleasant effects of the latter.

3. The reduction of temperature occurs rapidly, and persists for an average of twelve hours.

4. Its dose is double that of quinine. Three grains for a child under one year of age, seven grains under five years of age, and thirty grains for an adult form the usual maximum dose. Half the quantity may be given subsequently at intervals of one, two, or three hours, according to indications.

COCAINE AS A LOCAL ANÆSTHETIC IN THE USE OF THE THERMO-CAUTERY.

By HENRY B. MILLARD, M. D.

Though many courageous patients bear even the thorough application of the thermo-cautery with fortitude, there are constitutions that can not endure it, even lightly applied, without intense suffering or nervous shock. I have in the latter class of cases usually employed an anæsthetic internally, but it has often happened that some difficulty of the heart has rendered this impracticable. I have recently employed the cautery in two of these cases, pain being entirely prevented by the local use of cocaine.

The first was that of a gentleman suffering from chronic cervico-occipital neuralgia with congestion at the base of the brain; there was cardiac neuralgia with feeble and irregular action of the heart. I injected into the neck near where I intended to apply the cautery four drops of a four-per-cent. solution of Merck's cocaine, and painted thickly, with several coats of it, the surface to be cauterized; coldness and numbness of the skin were produced. Light applications were freely made with a blunt point of Paquelin's apparatus, the operation being entirely painless; it was, of course, *followed* by burning.

The other instance was that of a very delicate lady who also suffered from heart troubles, rendering the ordinary anæsthetics inexpedient; the case was one of neuritis, the external cutaneous nerve of the arm being affected, causing great pain, some swelling, and loss of power of the arm and of the radial side of the forearm. Three drops of Merck's four-per-cent. solution were injected near where the nerve perforates the coraco-brachialis muscle, and the integument over the region of the biceps was painted with several coats of the solution, producing coldness and numbness of the skin. The cautery was freely used, the patient not suffering in the least.

There is every reason why, in such cases as cauterization of the superficial layers of the skin, cocaine should be of special use, since by it cutaneous insensibility can be easily induced. As regards the desirableness of some pain being felt during the operation, this can be graduated by the quantity of cocaine used. The burning, erythema, congestion, etc., are just as great afterward, however, as if cocaine had not been employed.

March 26, 1885.

ANTEFLEXION OF THE UTERUS,

WITH STENOSIS OF THE INTERNAL OS:

ITS CAUSE AND TREATMENT.

By P. F. CHAMBERS, M. D.,
ASSISTANT SURGEON TO THE WOMAN'S HOSPITAL.

Anteflexion is normal in the fœtus, dependent either upon the imperfect development of the anterior wall at that age, or on the thinness and softness of the body, coincident with the thickness and rigidity of the neck. The congenital form of anteflexion is due to a continuance of this fœtal condition.

Of the two forms of anteflexion, where not congenital, the most frequent is flexion of the neck, and is supposed to be produced at puberty by an unequal development of the body and neck. The body being slightly inclined forward, normally, the cervix, unduly developed, comes in contact with the posterior wall of the vagina, and is deflected downward, thereby causing the flexure. Or it may be due to a variety of other causes, such as a weakened muscular condition brought on by habits of indolence; parturition or miscarriages; weights above or traction from below; enfeebled uterine supports; habits of dress; sudden cessation of the menstrual flow; accidents, such as falls, a sudden misstep, etc.

Anterior displacements are, as obtained from the statistics by the best authorities, found to be by far the most frequent, and, as they are usually of long standing when first seen, their results are the most serious, and the procedure necessary to produce a cure more severe.

It is not that I have to propose anything new or original as to diagnosis, cause, or pathology, but simply to attract attention to one complication of anteflexion and its treatment by the operation of trachelotomy and the use of the glass stem, its practicability and methods of procedure, the objects to be gained, and the dangers attending the operation.

In cases of long standing, where the general condition of the patient has suffered by the loss of power of locomotion, often the gravest anxiety is expressed, and an excessively hyperæsthetic, hysterical condition is superinduced. At an early stage of the flexure, the sound could have been passed with comfort, but it would now cause the most excruciating agony; and, while then a simple reduction, with at most the use of the anteflexion pessary—such as recommended by Dr. Hewitt or Dr. Thomas—would have been all that was necessary, now these measures would not only be of no service, but, in the majority of cases, would be productive of more harm than good by setting up an inflammatory action of the surrounding parts.

The operation is not resorted to by any one in every case of anteflexion, and I think should not be in any case, no matter how severe the displacement, provided it can be relieved by any easier procedure. The milder methods should always first be tested, and especially in cases where the stenosis is slight. There are undoubtedly many cases in which, upon the first examination by the best manipulants, the organ seems so badly flexed and tightly constricted in the canal at the angle of flexure that an operation appears absolutely necessary, but, upon a subsequent trial of patience and skill, is found not only pervious, but easily reducible, and with the canal of sufficient caliber. In these cases a cure can be effected without an operation, and, of course, so much the better. But as an overweaning fondness for operative procedures is bad, so is a failure on the part of the surgeon to do his duty through timidity equally culpable.

Of the sixteen cases operated upon by Dr. T. Gaillard Thomas, within the last eighteen months, in which I acted as his assistant and had the exclusive care of afterward, a cure was effected in every case. They were all of the class especially referred to in this paper, and I have no doubt are often met with in the experience of every general practitioner: A marked anteflexion with a resisting stricture of the internal os at the angle of flexure; the passage of Emmet's silver probe or Simpson's sound causing a sharp, agonizing pain, described by the patients as very similar, though in an exaggerated degree, to the pain caused by the dentist in extracting the nerve from a tooth; and the uterus being found fixed and with great difficulty partially replaced.

The operation as performed, though of a much less severe character than that practiced by Simpson and by Sims, and generally accepted a few years ago over Europe and this country, is nevertheless of much severity, requires such nicety, and is attended with so many risks, that a minute description of its methods and a comparison with the others will not be out of place.

In 1844 Professor Simpson, of Edinburgh, invented his metrotome for incising the internal os, and following him came a number of other inventors, and in Great Britain the operation became very popular. From Great Britain, in 1860, it was accepted on the Continent, and in this country its great advocate, Dr. J. Marion Sims, first performed it in 1857; and with the indorsement of such a great authority it was generally accepted. Afterward, however, the pendulum began to swing in the opposite direction, until, for a while, the operation was almost entirely abandoned. Dr. Emmet, I believe, was the first to cry out against it, and in 1876 Dr. Peaslee wrote an article against it as performed by Simpson and Sims, and, instead, recommended an operation of the same nature but much milder. The operations performed by Simpson of deep lateral incisions, and by Sims of a deep posterior incision through the posterior lip of the cervix back to the vaginal junction, were found to be frequently attended by immediate dangers, and not seldom productive of serious remote consequences, to wit: profuse hæmorrhage, peri-uterine inflammation, occasionally forming abscesses, and general peritonitis; sterility, if not previously existing, and a tendency to miscarriage, should pregnancy by any chance ever take place. Dr. Simpson often performed the operation at his consulting-room in the manner before described, and then sent his patient home in a cab. To-day we not only recognize the danger his patients ran, but are fully aware that there is no operation in gynæcology for which the patient should be better prepared and after which she should be more closely watched.

For the operation as performed by Dr. Thomas, a thorough examination is first made, and, if any pelvic inflammation is found, the operation is postponed till all traces of it have disappeared. Everything being in readiness, the bowels are well moved a few hours before, and a hot vaginal douche is given immediately before the operation is to be performed. The patient being etherized—and, by the way, the operation should never be attempted unless an anæsthetic is given, for absolute quiet is necessary to enable the surgeon to exercise the most delicate touch and exactness—she is put in the Sims position, a Sims's speculum introduced, and the vagina thoroughly swabbed out with a sponge saturated in a solution of bichloride of mercury, 1 part to 1,000 parts of water. Throughout the operation thorough disinfection should be used. The uterus is then held firmly with a tenaculum, and the flexible silver probe is passed, in order to find the exact direction of the canal. The long, probe-pointed blade of the Sims knife being set at the right angle (Fig. 1), it is passed through the constricted portion as the probe is withdrawn, and, on withdrawing it, a straight incision about 3 mm. in depth is made in an anterior direction through the stricture and external os. The blade is again introduced, but at an opposite angle, the incision made in the posterior direction to the same depth, and the process repeated two more times, cutting in the lateral directions, so that at the finish the stricture and cervical portion will have been cut as in Fig. 2. The next process consists in snipping off with a pair of scissors the four teat-like processes, *a*, *b*, *c*, *d*, as shown by the dotted lines in Fig. 3. The cervix then has the appearance as in Fig. 4. A Peaslee's sound is then passed to see whether the stricture is thoroughly cut through, for, should there be the slightest obstruction to its free passage, the incisions are to be deepened.

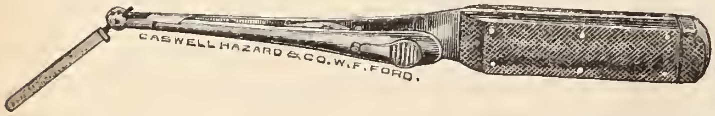


Fig. 1.

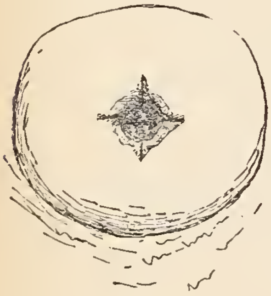


Fig. 2.

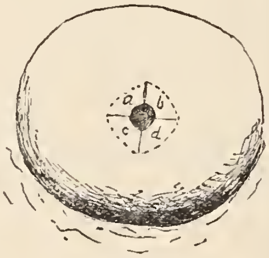


Fig. 3.

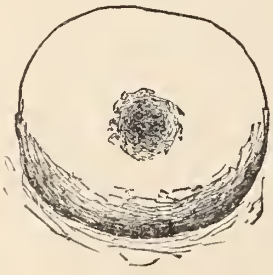


Fig. 4.

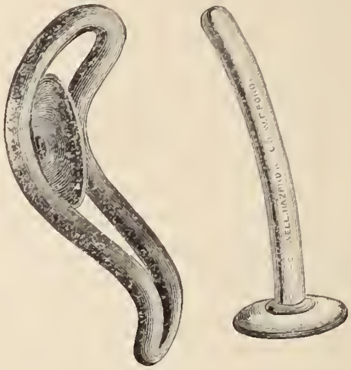


Fig. 5.

We have now reached the last stage of the operation, viz., the introduction of the glass stem and stem-sustaining pessary. But, before proceeding, a word or two in description of these. The stem as seen in Fig. 5 is of pure glass, 6 cm. long and 18 or 20 mm. in circumference, the size of a No. 18 or 20 male sound (French scale), and slightly curved; the base is of the circumference of a twenty-five-cent piece, but twice as thick and with rounded edges. The pessary is of hard rubber, in shape the same as an Albert Smith retroversion pessary; but fitted between the side-bars in the first curve is a shallow hard-rubber cup, of sufficient size to admit the base or bulb of the glass stem. The incisions in neither direction having gone deeper than 3 or 4 mm., no arteries are injured, and, as a consequence, the hæmorrhage is trivial; but, such oozing as may have taken place having been washed away with the bichloride solution, the stem is inserted, and, this being held in position by Hunter's depressor, the pessary is readily introduced, so that, after removing the depressor, the base of the stem will just fit into the cup. The patient is moved from the table to the bed and kept there for ten days, and quietly on her back for the first forty-eight hours. Should no unpleasant symptoms set in, nothing in the way of treatment will be necessary but the free use of the hot vaginal douche of carbolized water, night and morning. Occasionally a hypodermic injection of Magendie's solution of morphine (♏x) will be advisable as the patient is coming from under the ether. But should violent pain continue, or come on at any time later, accompanied with any rise of temperature, the stem should be removed at once, opium administered in sufficient quantity to relieve pain, a vaginal douche given, and, if necessary, intra-uterine injections, and the coil applied to the abdomen should the temperature reach 101° F. I have never had any disagreeable consequences follow the operation, but I feel satisfied that I should have had had I not resorted at once to the forementioned prompt measures. Should everything pass off pleasantly, at the end of the tenth day the patient is allowed to sit up, but must act with great prudence, and especially so during her next period, when it is really better that she should again go to bed. After the first period the stem is to be removed, cleaned, and reintroduced. The length of time necessary to wear the stem varies in different cases, but the average is about three months, as by that time the womb will be found in its normal position, will have regained its natural size, all inflammation will have subsided, and all contraction of the stricture will have ceased. There may be slight dysmenorrhœa and leucorrhœa as long as the stem is worn, but both will disappear on its removal. In the mean time, however, the patient can go about as usual, and suffer no more inconvenience than from the wearing of an ordinary pessary; but the douche ought to be kept up during the entire time, and, in fact, for several months after the stem has been removed. No patient should, however, be allowed from under the immediate observation of the surgeon without having first been well instructed how to remove the stem and pessary upon the first indications of trouble. In the great majority of cases, all that will be necessary will simply be to withdraw the pessary, and the stem will come with it. Should that fail, however, to remove it, by pressing the fore and middle fingers up into the vagina, the bulbous end will readily be reached and the stem removed.

The stem has for a long while been recommended in cases of anteflexion, but of late has gone almost entirely out of vogue, and I think for the following reasons: At the union of the neck and body of the uterus, the point at which the flexure most frequently occurs, the deep layers of muscular fibers form the sides in circular bundles, constituting a sphincter. This muscle, from being at first not in the least sensitive, becomes, from the constant irritation at that part, hyperæsthesic and contractile—so much so that, without being first cut through and its action for the time being paralyzed, it makes it impossible for the stem to be worn; hence the failure in many cases.

The objects of the operation are therefore threefold:

1. To *replace* a displaced uterus.
2. To relieve a stricture.
3. To correct mal-menstruation. And in the great majority of cases it so efficiently accomplishes its ends that I think there ought to be no question as to its propriety.

In accomplishing the two first, the third will surely be achieved, for in the same way that the canal has been constricted by the flexure so also have the blood-vessels; for, the arterial blood flowing to the uterus with a superior force to that of the venous, the body of the uterus is kept in a congested, hyperplastic condition. The straightening of the organ allows the veins to disgorge themselves, the circulation becomes more perfect, and a healthy menstruation takes place. The body becomes smaller and lighter, and, as a consequence, more readily assumes its normal place. If the trouble is congenital, the anterior wall is lengthened, the angle of flexure fills out, and the wall becomes of the correct consistence, density, and strength. There are two causes of pain (dysmenorrhœa) in these cases. First, obstruction on the part of the stricture to the free flow of blood, thereby allowing it to form clots, to be expelled by uterine contraction; second, a neuralgic condition set up by the inflamed, hyperæsthetic stricture. Both of these causes are at once relieved by the operation.

I do not claim for Dr. Thomas priority in the use of the intra-uterine stem for anteflexion nor for the operation of trachelotomy, but simply as the first to apply the two combined, and for his method a superiority over the others in the following points: It restores the uterine canal to its normal dimensions, neither larger nor smaller than it should be in the healthy parous woman. There is no danger from hæmorrhage, and, as the deep tissues of the womb are not wounded and the stem is movable with every movement of the organ, there is much less danger of any inflammatory action. The stem, being made of pure glass, does not corrode, is non-irritating, and, being easily removed, allows all discharge to escape, thereby preventing septic absorption. The tendency of the operation is not to favor sterility, but to overcome it, and does not in the slightest degree predispose toward a miscarriage. It is less apt to fail in relieving the stricture than any of the others, for the uterus, being an organ that readily repairs any injury done it, heals very rapidly after an incision, and, in many cases when the attempt has been made to do without the aid of the stem, I have seen a deep incision so thoroughly healed within a few days that it was as impossible to introduce a Peaslee's sound as it had been before the operation was performed. Dr. Simpson and Dr. Sims, being perfectly aware of the fact, purposely made their incisions much deeper than they wished the canal to be, and ran the risk of all the dangers of hæmorrhage and inflammation, because they knew their work would be in a great measure repaired, and the canal would be again lessened.

Of the sixteen cases above referred to, in two the operation had to be repeated because the stem was removed too soon, the second attempt placing them among the fourteen other successes. Three were for sterility in married women, two of whom have since become pregnant.

The operation of trachelotomy is undoubtedly of great service, and there are many cases that can not be cured by any other means; but, in closing, I will again repeat that, with all its recommendations, it is an operation that should be very carefully performed and most closely watched, and I would advise no one to attempt it who is not thoroughly conversant with uterine surgery, for, of all the minor uterine operations, there is none attended with more danger.

Since writing the foregoing we have tried divulsion, as recommended by Dr. Goodell, in several cases, and, so far, very satisfactorily. But as to the result we are unable to say, the length of time since the use of the divulsors not being sufficient to compare the method with that of cutting. The procedures of the two are the same, with the exception that, instead of using the knife, the divulsors, as described by Dr. Goodell, are used, the use of the stem and subsequent treatment being the same.

596 Lexington Avenue.

A CASE OF FRACTURE OF THE TRANSVERSE PROCESS OF THE ATLAS.

By L. C. ARMSTRONG, M. D.,

TAYLORVILLE, ILL.

H., an American, aged thirty-two years, while attending a political meeting on the night of October 30, 1884, accidentally fell into an altercation with an individual, and friends standing by interfered and prevented any serious occurrence at that instant.

H. moved on through a densely crowded street, and had gone about one hundred and fifty feet when he was overtaken by his pursuing antagonist coming up from behind with a heavy bludgeon, generally supposed to be a base-ball bat or wagon-spoke, with which he struck a violent blow, felling him instantly to the ground.

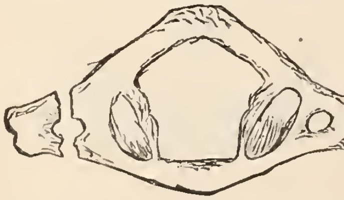
I was at once called to the dying man, and, my office being located not exceeding one hundred and seventy-five feet from the occurrence, I reached him within forty seconds after he was struck. There was no respiration after I reached him, the pupils of the eyes were widely dilated, and the pulse ceased beating within one minute and forty seconds after receiving the blow.

On manipulating the head, I was satisfied at the time that the neck had been dislocated.

Immediately after death the body was removed to the house of a friend, and on the following morning I was requested by the prosecuting attorney of the county to hold a post mortem on the body of the deceased. At nine o'clock, together with two assistants, I proceeded to the room where the body had been kept over night. On a thorough examination of the body, there were no perceptible marks of violence. But it was evident to all the physicians present that the atlas or axis had been dislocated, and we at once proceeded with the autopsy. In order to reach the dislocated vertebra, a vertical incision was made, beginning at the spinous process of the seventh cervical vertebra and extending to the occipital protuberance; also transverse incisions were made, beginning at the spinous process of the fourth cervical vertebra and extending on each side to the posterior border of the sterno-cleido-mastoid muscle, which enabled us to reflect the four quadrangular flaps made by these incisions, exposing the muscles in this region.

On dividing the integument and the superficial and deep fascia, all appeared perfectly natural; but, when the muscles were detached from the occiput and processes of the upper vertebræ, an unusual amount of semi-fluid blood was discovered. Without doubt this unusual quantity of semi-fluid blood in this particular locality was due to the rupture of the vertebral vein, as will doubtless be perceived in a further description of this case. After removing by absorption with sponges the blood which obstructed the vision, we proceeded to examine the vertebræ and their ligaments, and, taking hold of the spinous process of the second cervical vertebra, at the same time taking hold of the posterior arch of the atlas and manipulating the second cervical vertebra, it was readily perceived, from the extensive movement possible between these vertebræ, that there was a stretching of the atlo-axoid ligaments sufficient to permit displacement, which had compressed the cord so as to entirely destroy the functions of the phrenic nerve.

But, in order to more fully understand the injury done these parts, the atlas and axis were removed by dividing the ligaments and disarticulating them from their connectives. After the removal of the atlas and axis, on a close examination, it was discovered, by manipulating the right transverse process of the atlas, that it was completely fractured at its base.



This process was held in its natural position by the ligaments; but, on the removal of the ligaments, it was found to be completely separated from the body of the vertebra, as will be seen from the cut.

As stated, H. was walking at the time he received the blow. The person who dealt the blow approached from behind and struck H. one violent blow with some kind of instrument, supposed to be a base-ball bat or wagon-spoke by persons near the occurrence. Evidently, in striking this blow, the stroke was upward and lateral, and the instrument must have been round or oval, with a smooth surface, otherwise there would have been more or less abrasion of the skin.

This case is a most remarkable one on account of its extreme rarity and the almost inexplicable manner in which the fracture was produced. Dr. Hamilton, in his work upon fractures and dislocations, reports but a single case of fracture of the transverse process of the atlas, and this fracture resulted from a gunshot wound.

It is not difficult to understand how this fracture might occur in various ways from gunshot wounds, but it is most difficult to perceive just how it was produced by a blow struck at random with any kind of instrument, and a fracture of this process, doubtless, would not occur again in a thousand similar cases of dislocations of the vertebræ in this region.

Book Notices.

Practical Anatomy. A Manual of Dissections by Christopher Heath, F. R. C. S., Holme Professor of Clinical Surgery in University College, London, etc. Sixth Edition, Revised by Rickman J. Godlee, M. S. Lond., F. R. C. S., Demonstrator in Anatomy in University College, London, etc. With 24 Colored Plates and 274 Engravings on Wood. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xvi–567. [Price, $5.]

In welcoming a new edition of this excellent manual we need add but little to the commendations which have already been bestowed upon it. There are no essential changes in the book, except as regards the directions for dissection, which have been somewhat extended by Mr. Godlee. Some new woodcuts have been added, but we notice several which should properly be either re-drawn or replaced by new figures, since they have become much worn.

The great excellence of Heath's manual lies in its conciseness and clearness. While no point is slighted, all unnecessary details are omitted, so that the book is pre-eminently a guide to dissecting. While the illustrations may not always be so clear as could be wished, considering their size, they are not surpassed by those of Holden or Ellis. The author is a practical surgeon, and he has introduced into his little book a number of useful hints upon operative surgery which are calculated to add to the interest and zeal with which the student works over his anatomy. For these and other reasons we prefer this manual to its more ambitious rivals.

BOOKS AND PAMPHLETS RECEIVED.

Intermediate Hospitals for the Treatment of Acute Mental Diseases. By John Van Bibber, M. D., Baltimore. [Reprinted from the "American Journal of the Medical Sciences."]

Massage, the latest Handmaid of Medicine. By Benjamin Lee, M. D., Ph. D., Philadelphia. [Reprinted from the "Transactions of the Medical Society of the State of Pennsylvania."]

THE
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NEW YORK, SATURDAY, MAY 2, 1885.

THE TECHNICAL TERM FOR RICKETS.

A public dispute has lately arisen in Germany as to the proper way of spelling the scientific term for rickets—whether *rhachitis* or *rachitis*. Dr. Kocks, of Bonn, contributes to the "Centralblatt für Gynäkologie" for March 21st an article, entitled "Rhachitis oder Rachitis?" in which he gives most cogent reasons why the former spelling should be preferred. Our readers must have noticed that this journal has followed that spelling, and, when Dr. Kocks's article appeared, we were gratified to find that some one had taken the trouble to write in its favor in so convincing a manner and in such an influential publication, for we have looked upon the question as involving something more important than a mere display of erudition, and it will be seen in this article that we were right in our impression, for, by their omission to preserve the aspiration of the *rho* in the Greek term which they adopted as the scientific name for rickets, Glisson and his associates led the way to their being misinterpreted by no less a man than Professor Virchow.

Kocks's argument has been assailed by two writers in the "Centralblatt," Dr. Stenger, of Mannheim, and Dr. Bode, of Dresden, both of whom maintain that the Glissonian term rhachitis (spelled *rachitis* in Glisson's book) was not derived from ῥάχις, but was formed from the English vernacular *rickets*. Dr. Bode quotes Virchow as follows: "Ich schreibe, dem alten und erst in der neuesten Zeit in Abnahme gekommenen Gebrauche gemäss, Rachitis nicht mit dem griechischen ῥ. Bekanntlich hat Glisson dieses Wort nach der vulgären englischen Bezeichnung the rickets gebildet, dessen Abstammung unbekannt, aber möglicherweise germanisch ist. Er selbst und fast alle späteren Hauptautoren schrieben auch Rachitis und nicht Rhachitis, welches offenbar verwirren kann. Selbst Buchner (Tract. de rachitide perfecta et imperfecta, Argentorati 1755), der Rachitis geradezu durch Morbus spinalis übersetzt und die Rachitischen Spinosi nennt, hat die alte Orthographie beibehalten."

If by "die alte Orthographie" Virchow means anything else than Glisson's own erroneous spelling, we think he is in error. Kraus says: "Rachitis, richtiger: Rhachitis." Blancard says: "Rachitis, vide Rhachitis." Castellus says: "Rachitis. Vide Rhachitis." The late M. Littré says, in his "Dictionnaire de la langue française," under "Rachis": "Il vaudrait mieux écrire avec une *h* rhachis et les mots qui en dérivent; . . . ou bien il faudrait, généralement, supprimer ces *h*, qui n'indiquent qu'une étymologie grecque." In his "Dictionnaire de médecine," prepared in conjunction with Professor Robin, the same author says: "Rachitis . . . synonyme de rachitisme," and "Rachitisme ou mieux rhachitisme." Gerhardt writes Rachitis, but (in his "Lehrbuch der Kinderkrankheiten") quotes Guérin, Friedleben, Ritter von Rittershain, Bohn, and even Virchow himself as having written Rhachitis.

Although it is only under a cross-reference that Littré enters his protest against rachitis, it is to be borne in mind that the French have in general been less careful to preserve the original marks of their words of classical origin than either the English or the Germans, and it may readily be understood that he should not have felt called upon on all occasions to stem the tide of popular carelessness. It is noteworthy, however, that he says: "Rachialgie ou mieux rhachialgie," "Rachidien . . . ou mieux rhachidien," "Rachis ou mieux rhachis," "Rachisagre ou mieux rhachisagre," "Rachitique ou mieux rhachitique," and "Rachitome ou mieux rhachitome." As for the Italian and Spanish languages, they are a law unto themselves, and scarcely make any attempt to indicate the precise origin of their words. In English, however, and particularly in German, the endeavor is pretty constantly discernible. We are surprised, therefore, that one of the great leaders of German thought should have allowed himself to cite Buchner's inconsistency as strengthening his own position, and we can not admit that there is any justification for those who look upon rhachitis as derived from ῥάχις in writing it rachitis.

Thus far, we have discussed only the matter of dropping the aspirate, supposing the word to have been of Greek origin. The next question is, Was it of Greek origin? Virchow says it was not. We think, however, that he can scarcely have come to that conclusion as the result of personal investigation. It is abundantly evident that the reason he gives for dropping the *h* was not an original observation of his own, for Trousseau alludes to it, in his "Clinique médicale," in the following words: "Que cette dénomination ait eu dans le principe une prétention scientifique; que, ainsi qu'on l'a dit, Glisson, frappé de la déformation de la colonne vertébrale chez la plupart des sujets, ait été chercher son étymologie dans la Grèce, νόσος τῆς ῥάχεως (maladie du rachis), dont il aurait fait ῥαχίτις, comme de νόσος τῶν πλευρῶν (maladie des plèvres), on avait fait πλευρίτις (la pleurésie); que cette dénomination n'ait eu d'autre but que de rappeler l'expression vulgaire de *rickets*, la chose importe peu." Moreover, Roth, the most recent German medical lexicographer, says: "Rachitis (so benannt von dem Engländer Glisson, mitte des 17. Jahrh., weil sich dieser Name im Klang ziemlich an die in England volksthümliche Bezeichnung *the rickets* . . . anschliesse und zugleich auf die in hervorragender Weise betheiligte Wirbelsäule hinweise)," etc.

It is to be inferred from all this that a vague impression has been current that the term rhachitis was not of classical origin. Let us inquire of its authors. We say authors, for it was not Glisson alone who prepared the treatise that is commonly known as his, but a commission made up of two others besides himself. We have before us an old vellum-bound copy of the third edition of the book. The title-page reads as follows: "De rachitide, sive morbo puerili, tractatus; *Opera primo ac Potissimum* Francisci Glissonii Doctoris, & publici Professoris Medicinæ in alma *Cantabrigiæ* Academia, & Socii Collegii Medicorum *Lon-*

dinensium, conscriptus; *Adscitis in operis Societatem* Georgio Bate, et Ahasuero Regemortero, Medicinæ quoque Doctoribus, & pariter Sociis Collegii Medicorum *Londinensium. Editio tertia, priori adcuratior longe, & emendatior.* Lugduni Batavorum,

Ex Officina { Cornelii Driehuysen
&
Felicis Lopez, 1671."

On page 5 we find the following passage: "Dum hisce satisfacere satagimus, aliquis nostrum casu quodam in nomen incidit quod sibi & cæteris quoque postmodum arrisit. Fuit autem νόσος ῥαχίτις, vel etiam ῥαχίτης (siquidem illa terminatio non plane abhorret à communi genere) morbus spinalis, item νόσος τῆς ῥαχεως, morbus spinæ dorsi. Est enim spina dorsi inter partes primo hoc morbo affectas princeps. Deinde nullus alius morbus aut symptoma nomen hoc ei præripuit: Præterea nomen hoc familiare est ac facile. Denique videmur hoc nomine Anglicum nomen tanto populi consensu receptum, viz., *the Rickets*, à barbarie liberare. Absque enim torsione vocis nomen *Rickets* à voce ῥαχίτις ῥαχίτης deduci prompte potest, modo habeatur ratio mutationis quæ propter vulgarem pronunciationem accidere solet vocabulis quando ab una ad aliam linguam transferuntur." Besides this definite statement, the pictorial frontispiece shows two hunchbacks, if not three (one being so seated as not to show the deformity), and a prepared spinal column showing lateral curvature. There seems to us to be plenty of evidence scattered through the volume that the authors did look upon the spinal manifestations as an important feature of the disease, and that the name they adopted for it was thought by them to give expression to that view; the features of the frontispiece that we have mentioned may count for what they are worth.

The passage that we have quoted seems noteworthy from several points of view. In the first place, neither Glisson nor either of his associates coined the word rhachitis, for they found it already in existence—"Fuit autem νόσος ῥαχίτις." They simply dropped the noun and retained the adjective in the feminine, making it a noun to suit their purpose. This is precisely what has been done hundreds of times, and is still being done, in scientific nomenclature; we no longer say *tunica conjunctiva*, *membrana mucosa*, or *arteria innominata*, for instance, but only *conjunctiva*, *mucosa*, and *innominata*, and there are indications that this process is to be carried still farther, for not only does no one now ever write the full expression *diametros conjugata vera*, but even *conjugata vera* is getting to be thought too cumbersome, and of late the brief word *vera* has been found doing duty alone.

The next point that attracts our attention is the evident appreciation of Glisson and his associates of the unfortunate fact that νόσος was a feminine noun, and required ῥαχίτις instead of ῥαχίτης—"vel etiam ῥαχίτης," they say "(siquidem illa terminatio non plane abhorret à communi genere)". Had they felt at liberty (as they seem to have been tempted) to use the word rhachites, instead of rhachitis, they would not have been construed as having committed themselves to a definite inflammatory pathology of the disease as well as to its localization in the spine—a refinement of which they have undoubtedly had the credit, perhaps with the effect of stimulating the zeal of those who have sought to disprove their intention of naming the disease with any reference to the spine.

Finally, some color is given to the notion of their having simply aimed at clothing the word rickets in classical garb by their remark: "Denique videmur hoc nomine Anglicum nomen tanto populi consensu receptum, viz., *the Rickets*, à barbarie liberare." But this was undoubtedly an after-thought—a sort of apology for a word with which they do not seem to have been very well pleased, as they make use of it but very few times in the whole book, but usually say *hic morbus* or *hic affectus*. Especially must the remark not be allowed to conceal their belief in the spinal nature of the affection, for it follows close upon the declaration: "Est enim spina dorsi inter partes primo hoc morbo affectas princeps."

The Glissonian treatise, then, affords no justification for writing rachitis instead of rhachitis, and we are unable to see that an excuse for suppressing the *h* is to be found in any consideration more respectable than laziness. We maintain, therefore, that the word should be spelled *rhachitis*.

THE MEETING AT NEW ORLEANS.

As will be seen by our dispatches, the meeting of the American Medical Association that has just been held in New Orleans encountered some snags, and we are very much mistaken if it is not generally thought that it did not struggle with all of them successfully. One thing is certainly to be mentioned to its credit—that it refrained from making any change in the management of its "Journal." As to the question of allowing the sections to choose their own officers, perhaps no great harm will result from continuing to deny them that privilege, provided the hint thrown out by Dr. Davis is heeded, namely that the Committee on Nominations should not nominate as officers of sections men who have seen little or no service in those sections.

In the regular order of things the next meeting should be held in Washington. By resolving to hold it elsewhere the association plainly foreshadows—if any additional indication were needed—that it means to take the International Medical Congress under its wing. We shall see. The phenomenal assurance with which the meeting proceeded to assume that its business in the matter did not end in the issue of the invitation is refreshing. In an evil hour Dr. Billings consented to give his splendid abilities in the service of the association. He reaped his reward when he stood before the meeting in New Orleans, and was pelted by those who seem to have felt that they were slighted at the Copenhagen meeting of the Congress. By so doing he showed that he is possessed of one virtue that heretofore there has been no occasion for him to display—patience. Whether, in the end, he and his committee will consent to be dictated to by the additional thirty-eight whom the New Orleans meeting had the effrontery to provide for, with power to overrule all that has been done, seems to us to admit of some doubt, and we do not regard it as altogether certain that the thirty-eight themselves will stomach the work that has been put upon them. In the choice of its officers for the ensuing year, too, it seems to us that the association has been ill-advised, for among the general officers we do not recognize one who is widely known as a representative of the American profession.

A NEW JOURNAL OF THERAPEUTICS.

We have received the first issue of a new French journal of therapeutics, entitled "Les nouveaux remèdes." It is edited by Dr. G. Bardet, chief of the therapeutical laboratory at the Hôpital Cochin, and M. Delpech, a pharmacist, formerly president of the *Société de thérapeutique*, assisted by M. Egasse, formerly adjunct professor of chemistry in the *École de médecine navale* at Rochefort, M. Portes, chief pharmacist of the Lourcine Hospital, Dr. Campardon, and M. Midy, a pharmacist. The journal is to be published semi-monthly, and is to be devoted to medical chemistry, pharmacology, therapeutics, and hydrology. The initial number, dated April 1, 1885, contains twenty-four pages of reading matter, including a commentary on the new French pharmacopœia, by M. Delpech; a lecture on the therapeutical properties of the synthetical products of the aromatic series, by Dr. Bardet; the first part of an article on the medical use of the oleates, by M. Egasse; a note on the *Andira inermis*, by M. Midy (to which we lately made reference); and an article on the rotatory property of wines, by M. Portes. The appearance of the journal is very creditable.

AN EXPLOSION OF LYCOPODIUM.

Many of our readers are doubtless aware of the interesting facts that were brought out some months ago, in connection with an explosion in a Western flouring mill, going to show that substances that are not explosive under ordinary circumstances may become so when reduced to a state of exceedingly fine mechanical division. An occurrence that is probably to be explained in like manner is cited in a recent issue of the "Gazzetta degli ospitali." A person employed in a pharmacy in Strassburg was engaged in pouring some lycopodium from one vessel into another, when the dust that rose from it took fire from the gaslight and gave rise to a slight explosion. Thereupon the frightened workman dashed the vessel to the floor, and at once a dense cloud of the fine powder spread through the place and exploded, injuring the man to some extent about the face and shattering the glassware and the windows.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 28, 1885:

DISEASES.	Week ending Apr. 21.		Week ending Apr. 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	4	0	9	5
Scarlet fever	70	17	80	17
Cerebro-spinal meningitis	1	2	4	2
Measles	174	27	184	15
Diphtheria	48	20	46	28

The Cholera is stated in a press dispatch, dated April 23d, to have broken out again in Cairo, seven deaths from the disease having occurred up to the date mentioned.

A Sanitary Conference, in which some of the officials of New York, Brooklyn, Philadelphia, Baltimore, Boston, and New Haven took part, was held in New York on Thursday of last week, with special reference to the adoption of precautions against the cholera. In spite of all the abuse that has been heaped upon the Surgeon-General of the Marine-Hospital Service for his stringent exclusion of rags from sources that might prove dangerous, it is reported that the conference decided to maintain a close quarantine against them, and to insist on their disinfection by heat.

"Rough on Rats" is reported to have caused the death of another human being, this time by the suicide of a resident of Coshocton, Ohio.

The Board of Health has replied to certain criticisms of its course by the Sanitary Aid Society by making a public statement of the number of inspections made by its officials during the three months ending March 31st, amounting to 11,603.

Measles.—It is stated that since the 1st of January there have been 1,700 cases of this disease, and seventy deaths from it, reported in Brooklyn.

St. Mary's Free Hospital for Children.—The annual reception was held on Saturday afternoon of last week, and, as we are glad to learn, was exceedingly well attended.

The Ladies' Health Protective Association and the Seventeenth Ward Aid Society are acting in concert with the Sanitary Aid Society in the endeavor to stimulate the Board of Health to the efficient performance of its duties.

The Brooklyn Pathological Society.—On Thursday evening, April 30th, Dr. Daniel Ayres gave a lecture on "Interpretations of the Microscope," with illustrations, at the Brooklyn Eye and Ear Hospital, being the second lecture of a course given under the auspices of the Brooklyn Pathological Society.

Lusk's "Midwifery" has been translated into French, and, as we learn from the "Union médicale," a copy was lately presented to the *Académie de médecine* by M. Charpentier, in behalf of M. Doléris.

The New York Hospital Training School for Nurses.—The graduating exercises of the school were held at the hospital on Monday evening, April 20th, when an excellent address was delivered by Dr. George L. Peabody, of the hospital staff. The graduating class was made up of the following named ladies: Miss Mary K, Howell, Miss Ella F. Woods, Miss Leila V. Jones, Miss Mary Abbie Adams, Miss Annie C. Bouck, and Miss Hindela E. Whitehead.

The New York Orthopædic Society.—At the meeting held on Thursday evening, April 30th, Dr. E. H. Bradford, of Boston, read a paper on "The Forcible Treatment of Inveterate Cases of Club-Foot, with an Analysis of Fifty Cases"; Dr. H. L. Taylor related the history of a case of congenital talipes equino-varus cured by mechanical treatment after failure with tenotomy; and Dr. A. B. Judson showed a new apparatus for the treatment of talipes calcaneus.

The Death of Dr. Joseph C. Batchelder, of Templeton, Mass., is announced as having taken place on Sunday, April 26th. The deceased was nearly seventy-six years of age, and had practiced in Templeton for nearly thirty years. He was a member of the Massachusetts Medical Society, and during the late war he served as assistant surgeon of a Massachusetts regiment. At one time also, while living at Topsfield, he represented that town in the State Legislature.

The Death of Dr. James B. Kissam, a retired practitioner, took place on Sunday, April 26th, in the seventy-fourth year of his age.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 19, 1885, to April 25, 1885:*

McParlin, T. A., Lieutenant-Colonel and Assistant Medical Purveyor, U. S. Army. Sick leave extended three months on surgeon's certificate of disability. S. O. 88, A. G. O., April 17, 1885.

Smith, Joseph R., Lieutenant-Colonel and Surgeon; Billings, John S., Major and Surgeon; McElderry, Henry, Major and Surgeon. Detailed to represent Medical Department of the Army at annual meeting of American Medical Association, to be held at New Orleans, La., April 28, 1885. S. O. 91, A. G. O., April 21, 1885.

Crampton, L. W., Captain and Assistant Surgeon. Assigned to duty as Post Surgeon, Fort Bridger, Wyoming Territory. S. O. 33, Department of the Platte, April 22, 1885.

Borden, William C., First Lieutenant and Assistant Surgeon. Ordered for duty at Fort Douglas, Utah Territory. S. O. 33, Department of the Platte, April 22, 1885.

Robertson, R. L., First Lieutenant and Assistant Surgeon. Granted leave of absence for one month. S. O. 43, Department of Texas, April 16, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending April 25, 1885.*

Sawtelle, H. W., Surgeon. When relieved, to proceed to Detroit, Mich., and assume charge of the Service. April 23, 1885.

Urquhart, F. M., Passed Assistant Surgeon. To assume charge of Cape Charles Quarantine Station. April 23, 1885.

Williams, L. L., Assistant Surgeon. When relieved, to proceed to Norfolk, Va., for temporary duty. April 23, 1885.

Society Meetings for the Coming Week:

Monday, *May 4th:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians, New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Medical Association (annual); Boston Society for Medical Observation; Providence, R. I., Medical Association; Hartford, Conn , City Medical Association; St. Albans, Vt., Medical Association.

Tuesday, *May 5th:* New York Obstetrical Society (private); New York Neurological Society; Buffalo, N. Y., Medical and Surgical Association; Elmira, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Hudson (Jersey City) and Mercer, N. J.; Connecticut River Valley Medical Association (Bellows Falls, Vt.); Androscoggin County, Me., Medical Association (Lewiston).

Wednesday, *May 6th:* Medical Society of the County of Richmond, N. Y. (Stapleton); Essex North District, Mass., Medical Society (Haverhill); Plymouth District, Mass., Medical Society; Penobscot County, Me., Medical Society (Bangor).

Thursday, *May 7th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Medical Society of the County of Orleans, N. Y. (Albion); Medical Society of Ocean County, N. J. (Tom's River); Boston Medico Psychological Association.

Friday, *May 8th:* Yorkville Medical Association, New York (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *May 9th:* Obstetrical Society of Boston (private).

Proceedings of Societies.

AMERICAN MEDICAL ASSOCIATION.

Thirty-sixth Annual Meeting, held in New Orleans, Tuesday, Wednesday, Thursday, and Friday, April 28, 29, and 30, and May 1, 1885.

Tuesday's Proceedings.

The meeting was called to order at Tulare Hall, at 11 a. m., by the chairman of the Committee of Arrangements, Dr. Samuel Logan. A prayer was offered by the Rev. B. M. Palmer, D. D.

The Address of Welcome was then made by Dr. Logan, who intended, he said, to make his expressions of welcome as warm as the weather with which the meeting opened. He deplored the absence of the late Professor Samuel D. Gross, of whose memory he spoke in the most feeling terms. As regarded the association, it was a pleasure to reflect that Dr. Gross's love for it had been most abundantly gratified during his lifetime.

The President's Address.—At the close of his remarks, Dr. Logan introduced the President of the association, Dr. Henry F. Campbell, of Augusta, Ga., who proceeded to deliver his address. He spoke first of the high appreciation that the great Southern State which he represented had felt when it was first made known that upon one of its citizens had fallen the choice of the honorable position of President of this association. He then alluded to the notable progress that had been made during the year in the science and art of medicine, both in our own country and abroad, and expressed the hope that the future might be as golden as the past—a hope that was abundantly promised by the large attendance that he saw about him, including that of a great number of the younger men, from whom chiefly were to spring the efforts that should bring glory to the association and to the profession in the future. He, too, would refer to the late Professor Gross and the other giants that had been prominent in the affairs of the association; but the dead needed no monuments or mausoleums of our building. Coming to those who were still living, there were many among those whom he saw before him who were familiarly known for their faithful stewardship in the past, but he dared not mention their names, for fear of being pronounced unparliamentary. Some there were among them who were here now just as they were here thirty years ago, and he would make haste to honor these Nestors of the profession. Let us pour into their manly hearts words of commendation, for to-morrow they might not stand prominent before us in the magnetism of their living presence.

He then contrasted the New Orleans of certain former times, brought low by pestilence and death, with the prosperous and beautiful Crescent City that now welcomed them within her hospitable limits. What magic metamorphosis was this? Here were the products of agriculture, of the loom, and of the mine, all collected in one interminable panorama for us to look at with unbounded interest and enjoyment. Warmly grateful should we be to the people of this great city, at whose feet the Father of Waters poured his libations.

He dwelt at some length upon the work that should be done in the different sections, a work that had already attained well-nigh to perfection so far as it went. Reverting to the work of the association at large, there was room for it, he said, to exert its influence in inducing national legislation for carrying out the purposes of sanitary science. Reference was then made to the creditable weekly journal that had now taken the place of the cumbrous yearly volume of former days. In no respect was the change to be regretted, but on all accounts the association and the profession were the gainers by it. The journal might now be regarded as having been firmly established. He prophesied that in the course of a comparatively short time it would be found to have led to the organization of the entire profession, and the greatest praise should be accorded both to the editor and to the board of trustees.

The next topic touched upon the speaker characterized as one the complexity of which it was difficult to unravel or expound. He referred to the problems involved in the relations of physicians to judicial inquiries. When the medical man was brought before the tribunal of the law, whether as a skilled witness or as an ordinary witness, he labored under peculiar disadvantages, and oftentimes the light of scientific truth shed by him was not appreciated. A striking instance was cited of this state of things; a woman was on trial for murdering her husband by poisoning him with arsenic, and the testimony showed that that poison was found in the stomach and in the tissues, but an expert in chemistry and pharmacy so succeeded in befogging the jury that they acquitted the alleged murderess almost without leaving their seats. But it was not as a witness alone that the medical man suffered in courts of law—malevolent and unfounded suits for malpractice were far too common. The surgeon who was arraigned for malpractice had a blight cast upon his reputation and suffered severely in the costs; moreover, cases of the kind might frequently result disastrously to him. Unfortunately, these facts and their bearing were but too widely known, and evil-minded persons were not lacking to take advantage of such knowledge. Forensic medicine was the province of none of the departments of science individually, but was more or less allied to all of them. In conclusion, he recommended that a committee be appointed for the purpose of rehabilitating the Section in Forensic Medicine, for posterity would wonder why we had not done so.

On motion, a vote of thanks was passed to the President, and the address was referred to the Committee on Publication.

A Proposed Section in Forensic Medicine.—Dr. Quimby moved that a committee of five be appointed to which should be referred that portion of the President's address relating to forensic medicine, with reference to the propriety of establishing a section in that department. Carried.

The late Professor Samuel D. Gross.—Dr. J. G. Richardson, of Philadelphia, in behalf of the special committee appointed at the last meeting to take action with regard to the death of Professor Gross, read a written report embracing a survey of his life extending from the year 1852 to the time of his death, and including an elaborate eulogy prepared by Dr. Austin Flint, of New York. On motion, the report was accepted and referred to the Committee on Publication.

The Proposed New Medical Building in Washington.—Dr. John S. Billings, of the army, in the absence of Dr. Austin Flint, Sr., presented two special reports, the first of which related to the subject of requesting Congress to provide for the erection of a fire-proof building in Washington for the Army Medical Museum and the Library of the Surgeon-General's Office. The report was adopted and referred to the Committee on Publication.

The International Medical Congress of 1887.—The second report presented by Dr. Billings had reference to the coming International Medical Congress, to be held in Washington. It recited the resolution by which the association had originally invited the congress to hold its next meeting in this country, and included a letter on the subject that had been addressed to the President of the association. On motion of Dr. Keller, the report was made the special order for Wednesday, at 12 o'clock.

The Rush Monument.—On behalf of Dr. Albert L. Gihon, of the navy, the secretary stated that he was prepared to present the report of the committee on the erection of a monument in Washington to the memory of Dr. Benjamin Rush.

Dr. J. M. Toner, of Washington, moved to postpone action on this subject until Friday morning. Carried.

Invited Guests.—By resolution, the following-named gentlemen were invited to take part in the meeting as guests: Dr. Edward Jones, Dr. A. B. Miles, and Dr. A. J. Beckman, of New Orleans; Dr. J. G. Gunthereaux, of Welcome P. O., St. James Parish, La.; Dr. J. N. Scarborough, of Clinton, Hickson Co., Ky.

A Communication from the South Carolina State Medical Society was presented by Dr. R. A. Kinloch, on the question of the claims of various alleged discoverers of the anæsthetic properties of sulphuric ether. On motion of Dr. Beverley Cole, of San Francisco, the communication was referred to the Committee on Practical Medicine and Materia Medica.

Wednesday's Proceedings.

A number of telegraphic messages were received—among them one from an ex-president of the association, Dr. W. O. Baldwin, of Montgomery, Ala., expressing regret at the necessity of his being absent. The secretary announced the Nominating Committee.

The Address in Medicine was then delivered by the Chairman of the Section in Practical Medicine, Dr. H. D. Didama, of Syracuse, N. Y. [See page 485.] The address was referred to the Committee on Publication.

The Outgrowth of the First Operation of Ovariotomy.—Dr. R. S. Sutton, of Pittsburgh, Pa., read a short address with this title. In McDowell's first operation, performed in December, 1809, the woman was to be the subject of an experiment which involved her life. It was, of course, before the days of anæsthetics, and she submitted with fortitude. She recovered, and lived thirty years afterward. McDowell did the operation in his own house, with only one assistant. The atmosphere was that of a border town; no sponges were used within the abdomen, and the pedicle was dropped. The next operation was done in 1820. Up to 1862, but one success had been reported in Scotland, the case being one of Thomas Keith's; up to 1843, eighteen cases had been reported as having been operated upon in America; up to 1863, over three hundred cases had been operated upon in the United States; in 1885, every conceivable method had been tried in the management of the pedicle. Of late, ligation and the use of the cautery had given almost the same results. The author then dwelt upon the necessity of care in the sponging, and of the use of broad, flat sponges under the abdominal wall while the sutures were being adjusted, as had first been done by Keith. He closed with a tribute to the genius of the late Dr. Marion Sims, "the great, good, grand, noble" Sims, who, like McDowell, had a genius for investigation. A vote of thanks to the reader was passed, and the address was referred to the Committee on Publication.

Peninsular and Sub-peninsular Air and Climate.—Dr. W. C. Van Bibber, of Baltimore, read a paper with this title, the object of which was to give information as to winter resorts for invalids. Where should a place be built for the sick? He referred to Florida as one of the six principal peninsulas of the world, and compared its climate to that of Spain, Italy, Portugal, and France. Florida, however, was superior to all the others, and the author proceeded to give an elaborate description of the features of the State. The physicians of Florida often asked why it was that their brethren of the North sent patients there in the advanced stage of phthisis. The answer was that the patients went there of their own accord, for they had observed that even in that stage the progress of the disease was sometimes arrested by the action of the Florida climate. But Florida would never be complete as a health resort without a hygienic city built in the sub-peninsular portion of the State.

The International Medical Congress.—Dr. Keller, of Arkansas, moved to proceed to the special order, relative to the next meeting of the International Medical Congress.

Dr. John V. Shoemaker, of Philadelphia, rose and protested against the committee's report being received, alleging that the association's delegates had been wholly ignored by the Committee on Invitations at the Copenhagen meeting, but that the new-code men present had openly threatened that they would prevent the acceptance of the invitation unless they received full recognition; as a consequence, they had been recognized, as was shown by the fact that they had been given some of the prominent positions with reference to the Washington meeting.

Dr. F. E. Daniel, of Texas, offered a resolution that the Committee on Nominations be instructed to nominate a president and other officers for the approaching International Medical Congress.

Dr. Billings denied Dr. Shoemaker's statement absolutely and point-blank. His position was embarrassing; he spoke, not for the committee, but for what the committee had done—they had made no bargain with the new-code men. [Hisses.] No new-code member had been consulted by the committee, unless Dr. Moore, of Rochester, N. Y., was to be considered a new-code man, and his fidelity to this association stood in no need of argument. The resolutions had been drawn at Washington, with the view of arranging for a necessary meeting at which to complete the preparations for the congress. The speaker then read the resolutions referred to, also the names of the members of the organizing committee.

A member from Ohio said that the delegates had not been consulted—they had not been informed that any meeting was to be held. He was at Copenhagen for eight days; the Americans were not invited to advise with the Germans, and were ignored.

Dr. Quimby said it was not a matter of men, but a matter involving serious principles; the committee had usurped power, and had gone beyond their authority from the association, assuming executive and legislative functions, nominating officers, and the like. He closed by asking that the matter be referred back to the American Medical Association.

Dr. Keller thought that ninety-nine out of a hundred of the members of the association believed that the committee were the creatures of the association, and that they had exceeded their authority. He offered as a substitute for Dr. Daniel's resolution a motion that the President of the association should appoint a committee consisting of thirty-eight members, representing the army, the navy, the marine-hospital service, the District of Columbia, and the territories (to be nominated by State delegations); this committee to meet the original committee to review, alter, and amend the latter's action as it might deem best.

Dr. Cole, of California, seconded Dr. Keller's substitute with pleasure. He would not charge the committee with having deliberately done anything directly in conflict with their understanding of their duty, but he believed they had erred egregiously. He believed the new code had been established for the purpose of punishing the so-called misdemeanors of the association. Some of the men on the committee might be arrogant from their having been made conspicuous.

Dr. King, of Missouri, thought that this association could not question the acts of the committee. He hoped the new thirty-eight would kindly cut the throats of the new-code men.

Dr. Shoemaker repeated that his statement was true, and said that new-code men had been appointed.

Dr. Daniel would not accept Dr. Keller's substitute. Texas had been ignored in the formation of the committee. He thought it would be a fatal mistake to establish the precedent of clothing this committee with the appointing power.

Dr. Sanders, of Tennessee, made the point that this meeting was trying to undo the work of the committee. He moved that the committee's work be indorsed, with the proviso that they leave out the new-code men.

Dr. Roberts, of Philadelphia, spoke in favor of Dr. Sanders's resolution. This would place the American Medical Association in higher esteem in Europe.

Dr. Smart, of Michigan, said that the committee had substituted legislative action for its executive duties—perhaps not willfully; it had unduly transacted some of the duties which should have been relegated to this body. He suggested that each State should make its own nominations, as had been aimed at in Dr. Keller's motion.

Dr. Ghent, of Texas, wished to indorse that part of the committee which did not include new-code men.

Dr. Cole spoke charitably of the committee; the gentlemen composing it were eminent in the profession.

The secretary read Dr. Sanders's resolution. It was lost by a vote of eighty-eight to one hundred and twenty-nine.

Dr. Keller's substitute was then put, and carried by a vote of one hundred and thirty-one to ninety-two.

Thursday's Proceedings.

The Manner of electing Officers of Sections.—Dr. W. W. Potter, of Buffalo, moved that Dr. Foster Pratt's motion, offered last year, to so amend the by-laws as to allow each section to elect its own officers, be now taken up.

Dr. C. J. Lundy, of Detroit, said that to adopt this amendment would destroy harmony, and split the association into small bodies.

Dr. N. S. Davis, of Chicago, thought that this proposition should not be adopted. The only objection to the present method of choosing the officers, by the Nominating Committee, was that the committee had sometimes appointed men as officers to sections who had not worked two years consecutively in them. The amendment was premature. The Nominating Committee should be more careful. He moved as an amendment that the matter be postponed for one year. Carried.

Report of the Standing Committee on Meteorological Conditions and their Relations to the Prevalence of Disease.—Dr. N. S. Davis read the report, and said that the Superintendent of the Signal Service Bureau had kindly given him information of meteorological observations in seventy-two cities for the year 1884. The committee had advised their observers to inquire into the geographical distribution of diseases, their prevalence in certain places, and their ætiological factors in other respects.

The Collective Investigation of Disease.—Dr. Davis said that an international committee sitting in London, representing Denmark, Norway, India, Ireland, Great Britain, Hungary, Switzerland, and the South American and various other countries, had appointed an international sub-committee to decide upon the subjects to be investigated, so that each country would have the same subject to discuss, and harmony would prevail in its discussion. His name had been placed on the international sub-committee, and he would now report that the committee recommended that State societies be urged to take action in the matter. Illinois had done something in this direction for the past two years, and so had Pennsylvania.

The Code of Ethics.—Dr. Davis also made a report in behalf of the special committee appointed at the last meeting to consider certain suggestions that had been made in the annual address of the President (Dr. Austin Flint, Sr.), as to the advisability of giving an authoritative exposition of some of the features in the code that seemed to have been misunderstood. The committee, having given the subject due consideration, respectfully submitted its report in the form of the following preamble and resolutions:

"*Whereas*, Persistent misrepresentations have been and are still being made concerning certain provisions of the code of ethics of this association, by which many in the community, and some even in the ranks of the profession, are led to believe that these provisions exclude persons from professional recognition simply because of differences of opinions or doctrines; therefore be it

"*Resolved*, That clause 1, Art. iv, in the National Code of Medical Ethics is not to be interpreted as excluding from professional fellowship on the ground of differences in doctrine or belief those who in other respects are entitled to be members of the regular medical profession. Neither is there any other article or clause of the said Code of Ethics that interferes with the exercise of the most perfect liberty of individual opinion and practice.

"*Resolved*, That a voluntary disconnection or withdrawal from the medical profession proper is constituted by indicating to the public a sectarian or exclusive system of practice, or by belonging to an association or party antagonistic to the general medical profession.

"*Resolved*, That there is no provision in the Code of Medical Ethics in any way inconsistent with the broadest dictates of humanity; and the article which relates to consultations can not be correctly interpreted as interdicting under any circumstances the rendering of professional services whenever there is a pressing or immediate need of them—on the contrary, to promptly meet the emergencies occasioned by disease or accident, or to give a helping hand to the distressed without unnecessary delay, is a duty fully enjoined on every member of the profession, by both the letter and the spirit of the entire code; but no such emergencies or circumstances can make it proper to enter into professional consultation with those who have voluntarily disconnected themselves from the regular medical profession in the manner indicated by the preceding resolution."

The report, which was signed by N. S. Davis, A. Y. P. Garnett, H. F. Campbell, Austin Flint, and J. B. Murdock, was unanimously adopted.

The Address in Anatomy and Surgery.—Dr. Duncan Eve, of Nashville, chairman of the section in surgery and anatomy, then gave the address. Attention was called to the improvements that had been made in surgery in the nineteenth century, and the principal operations were reviewed, among which was a novel procedure by Professor Henry B. Sands for œsophagotomy. Reference was made to a case of lumbar colotomy in which death ensued one hundred and thirty-seven days after the operation. Operations for facial neuralgia and the procedure of cholecystotomy were then referred to; also the removal of calculi impacted in the urethra, the use of the woven-wire corset, the reduction of a dislocation of the seventh cervical vertebra, without fracture, thirty-six hours after the injury, and recent advances in the treatment of wounds. The speaker then mentioned some of the more important contributions that had been made to the literature of surgery during the year, and closed with a touching allusion to the late Dr. Gross. The address was ordered to be printed.

The Treasurer's Report, of which a summary was read by the secretary, showed a balance of $932.11 in the treasury; $17,093.26 had been paid in during the second year of the publication of the "Journal," to the subscription list of which one hundred and twenty-five names had been added during the year. The report was referred to the editor of the "Transactions," without being read.

The Report of the Committee on Publication was then read by Dr. J. M. Toner. The "Journal" year dated from the 1st of July; therefore the report embraced the last quarter of the first year and the first, second, and third quarters of the second year. After setting forth the committee's high appreciation of the services of the editor, the committee now announced, at the close of the second year, that the "Journal" was free from debt, and promised soon to be the foremost in the land. The number of subscribers at the close of this, the third quarter of the second year, was thirty-nine hundred. One hundred and twenty copies were required for exchanges. The total income was over $21,000. The cost of publishing, including the editor's salary, was $12,021.20. The committee had promised aid to the editor, and recommended that the publication should continue to be made in Chicago. They had unanimously requested Dr. Davis to continue as editor. Dr. Davis had replied that he would accept the superintendence of the "Journal" for another year. This great body needed an organ commensurate with its great reputation, and yet it should be kept clear from debt. In ten years the "Journal" would compare favorably with any association journal in the world. There would be money enough in the treasury, besides, to carry on any investigation that might be designated. On motion of Dr. Quimby, the report was accepted, and a vote of thanks tendered to the editor.

Prizes.—Dr. R. H. Reid, of Ohio, offered the following:

"*Whereas*, There is not sufficient stimulus offered by the association for original research, therefore be it

"*Resolved*, That a first and second prize be offered for the best and second-best papers showing original research in each section at the next meeting of the association; that three judges shall be appointed, no two of whom shall be from any one State, to judge of the merits of said papers; and that no paper shall occupy over thirty minutes in its reading."

Dr. Reid said, in reply to a question, that it was not intended to renew the prize system. The resolution was carried.

The Rush Monument.—The committee on the erection of a monument to Dr. Benjamin Rush submitted its report, including a short biographical sketch of Dr. Rush. The report closed with a resolution that the association erect the monument. The fund, it was recommended, should be raised by means of dollar subscriptions among physicians and medical students. The report was adopted.

The Committee on Forensic Medicine was announced as follows: Isaac N. Quimby, of New Jersey; X. C. Scott, of Ohio; F. E. Daniel, of Texas; J. V. Shoemaker, of Pennsylvania; Eugene Foster and H. F. Campbell, of Georgia.

Officers for the Ensuing Year.—The Committee on Nominations reported as follows: For president, William Brodie, of Michigan; for first vice-president, Samuel Logan, of Louisiana; for second vice-president, J. Y. P. Garnett, of the District of Columbia; for third vice-president, Charles Alexander, of Wisconsin; for fourth vice-president, G. W. Peck, of Iowa; for permanent secretary, W. B. Atkinson, of Pennsylvania; for assistant secretary and treasurer, R. J. Dunglison; for librarian, C. H. A. Kleinschmidt, of the District of Columbia. *For officers of sections:* Practice of Medicine.—Chairman, J. T. Whitaker, of Ohio; secretary, B. L. Coleman, of Kentucky. Obstetrics and Diseases of Women.—Chairman, S. C. Gordon, of Maine; secretary, —— Paine, of Texas. Surgery and Anatomy.—Chairman, N. Senn, of Wisconsin; secretary, H. M. Mudd, of Missouri. Ophthalmology, Otology, and Laryngology.—Chairman, Eugene Smith, of Michigan; secretary, J. Fulton, of Minnesota. Diseases of Children.—Chairman, W. D. H. Ager, of Tennessee; secretary, W. B. Lawrence, of Arkansas. Oral and Dental Surgery.—Chairman, J. Marshall, of Illinois; secretary, A. E. Baldwin, of Ellinois. State Medicine.—Chairman, J. H. Rauch, of Illinois; secretary, F. E. Daniel, of Texas. Committee on Necrology.—J. M. Toner, of the District of Columbia. Judicial Council.—R. A. Kinloch, of South Carolina; — — Sanders, of Tennessee; T. G. Richardson, of Louisiana; G. A. Ketchum, of Alabama; George Beard, of West Virginia; J. M. Toner, of the District of Columbia; and A. M. Pollock, of Pennsylvania. The next meeting to be held in St. Louis, the first Tuesday in May, 1886, and the succeeding Wednesday, Thursday, and Friday.

NEW YORK CLINICAL SOCIETY.

Meeting of February 27, 1885.

Dr. J. H. Emerson in the Chair;

Dr. W. Duncan McKim, Secretary.

Scirrhus of the Breast; Softening of the Spinal Cord.—Dr. L. Bolton Bangs presented a specimen of scirrhus of the breast, which had been removed on the 26th of November from a woman, forty-one years old, in whom examination failed to show the presence of any other disease. On the 17th of December the wound had healed, and the patient was feeling perfectly well. On the 19th she complained of weakness in the legs. On the 22d she was unable to walk. On the 24th she was unable to micturate, there was pain in the lumbar region, both legs were paralyzed, and the sense of touch was lost up to the umbilicus in front and up to the junction of the dorsal and lumbar portions of the vertebral column behind. With paralysis of the bladder and rectum, there was pain around the waist. On the 26th the temperature was 101·5° F., and cough and expectoration were present, together with mucous râles in the upper lobe of each lung. On the 28th there was pneumonia of the left lower lobe. On the 31st she died.

Autopsy.—The lower lobe of the left lung was found solidified, and the upper lobe congested. The lower lobe of the right lung was congested and œdematous. The spleen was slightly enlarged. The kidneys were normal. On the anterior surface of the liver, near its lower border, a circular grayish white body was found, hard and fibrous on section, and as large as an acorn. In the substance of the liver several such bodies were found, the largest of which was of the size of a walnut. The pia mater of the brain was congested, and the subarachnoidean fluid increased in amount. Nothing was noted in the upper portion of the spinal canal; in the lower dorsal and the lumbar portions there was a quantity of bloody serum. In the lower dorsal region the cord was found broken down into a soft, yellowish mass stained with blood, the softening extending completely through the cord for a distance of two inches.

Malarial (?) Convulsions in a Child.—Dr. J. Williston Wright gave an account of the case of a child, three years old, which, after having been somewhat indisposed for several weeks, suddenly became very cold on the morning of February 22d, and had severe convulsions. At breakfast, before the attack, she had eaten several olives. The temperature was 101·5°, the pulse 120, and the respiration 40. There was no evidence of pneumonia or of scarlet fever, no tenderness of the abdomen, and no heat of the head. The child was stupid and constantly twitching. The temperature remained unchanged through the day. The next morning the temperature was 99°, the pulse 120, and the respiration 24. On the 24th there was a rapid rise of the temperature to 103·5°, and there was much twitching. A dose of castor-oil was given, also twenty grains of quinine by the rectum. On the 25th the evening temperature was 99°; on the 27th the temperature was 100·25°. Still there were no physical signs, but three or four large, watery evacuations from the bowels took place. During the preceding summer the child had had a malarial attack, at New Brighton, Staten Island, and the seizure which he had just related Dr. Wright thought was probably also malarial, of a remittent type.

Dr. A. A. Smith had seen many cases of malarial fever in children in which a convulsion had taken the place of the usual chill and been followed by fever and sweating. In these cases the convulsions were often due to something else besides the malaria; in Dr. Wright's case that something else was doubtless the olives. In such cases it was well to give large doses of opium, such as ten drops of McMunn's elixir, but, when the convulsions had been subdued, quinine should be given.

Dr. E. G. Janeway thought that in many such cases it was quite impossible to ascertain the cause of the convulsions, even when the temperature was as high as 105°.

Insidious Tuberculosis in a Child.—Dr. Janeway mentioned the case of a child, four months old, which, after a little cough and some colicky pains, died suddenly, with a flow of blood from the mouth and nostrils. There had been no previous signs of disease. At the autopsy, the trachea and the bronchial tubes were found full of blood, and there was a tubercular ulcer at the bifurcation. There was pleurisy of the left side, and tubercles were found in the lungs, the kidneys, and the spleen, with abundant bacilli. The hæmoptysis had evidently been due to the tuberculosis, and the case was an instance of the insidious character of that disease in children.

Cystic Tumor of the Vesico-vaginal Septum.—Dr. Smith related the case of a young lady who suffered from great depression of spirits, whose urine was diminished in quantity and of high specific gravity, and who was obstinately constipated. She was advised to take a Turkish bath once a week, and a mercurial cathartic, alkaline diuretics, and regulation of the diet were also prescribed. At the end of two weeks she seemed to have improved, and returned to her home, in another city, where a physician who saw her announced that she had acute Bright's disease. She afterward returned to New York, with symptoms of urethral obstruction. Within the bladder, at its base, a fluctuating growth was felt, about an inch in diameter, extending into the urethra. By pressing the growth firmly against the pubic bone, by a finger in the vagina, he was able to squeeze out its contents. The evacuation of the tumor had been accomplished in this manner six times; at first the contents were seropurulent, but on the last two occasions they were grumous. Under this treatment micturition had become less frequent, and the patient had improved in every way, especially with regard to her mental depression, while the growth had been reduced to about one sixth its former size. She declined to have the urethra dilated.

Dr. Frank P. Foster thought the case very obscure, but suggested that the mass might be a cystic dilatation of a persistent Gartner's canal.

Dr. R. J. Hall thought that Gartner's canal opened too close to the lower orifice of the urethra for this to be possible.

Dr. Foster was of the impression that the canal might extend down to almost any point between the cervix uteri and the meatus urinarius externus. He thought that vaginal cystotomy would be advisable in Dr. Smith's case, if any further interference was found to be necessary.

Dr. Wright thought that either rapid dilatation of the urethra or vaginal cystotomy was to be recommended.

Dr. SMITH thought that he would draw off the contents of the cyst, and then inject some irritating fluid.

AMERICAN SURGICAL ASSOCIATION.

Annual Meeting, held in Washington, Tuesday, Wednesday, Thursday, and Friday, April 21, 22, 23, and 24, 1885.

The President, Dr. WILLIAM T. BRIGGS, of Nashville, in the Chair.

Tuesday's Proceedings.

The President's Address.—After calling the meeting to order, in the Army Medical Museum building, the President thanked the association for the honor conferred upon him. Reviewing the work accomplished by the association, he thought it compared favorably with that of any like organization. He then spoke of the notable absence of one who, like Saul, had stood head and shoulders above his brethren. The death of Dr. Samuel David Gross had removed a pathologist, a surgeon, and a medical philosopher, the acknowledged peer of any one in the world. It could justly be said, not only that he was the greatest American surgeon, but also that he was a great man. He had taken great interest in the foundation and progress of this association, and it became the duty of his survivors to maintain it in all its vigor.

The President then made a number of suggestions. The association was of a representative and national character, and, in order that this feature might be maintained, he considered it essential that every reputable surgeon in the land, who fulfilled the requirements of the constitution, should be embraced in its fellowship. Of course, the election of members should not be indiscriminate, but the association should not have the character of a close corporation. The addition of new members would tend to add new vigor and strength to the organization. On several occasions surgeons who were recognized as the peers of any had been ostracized by the ballot. He would go further and, if it was necessary, would favor such alteration of the constitution as would permit all qualified surgeons to become members. Every member should consider it his duty to attend each annual meeting and be prepared to take part in the discussions. The meetings should not be allowed to degenerate into simply social gatherings, but this feature should be made subservient to the scientific work of the association. For several years the annual session had been held in April or May. Originally it had been the design to hold the meetings during the heated period. He suggested that hereafter they be held in August or the early part of September, and also that they might with profit be held at some seaside or inland resort, so that rest and recreation might be combined with scientific work. He also referred to the remissness of the readers of papers in not sending their manuscripts to the publication committee, and thus delaying the issue of the last volume of the "Transactions." The constitution provided for the election of honorary members, but so far no foreign names had been placed on that list, and he thought it would be proper for the Council to suggest the names of some eminent foreign gentlemen for this honor, but care should be exercised not to cheapen it by promiscuous distribution.

The meeting then went into executive session. The report of the secretary and that of the treasurer having been read, the suggestions of the President were referred to the Council for consideration.

A Device for Atmospheric Purification was then described by Dr. DAVID PRINCE, of Jacksonville, Ill. After a brief *résumé* of the use of antiseptics and disinfectants, he went on to speak of the purification of the air of operating-rooms. Was it not practicable, he asked, in view of the effect of rainy weather upon the number of microbes floating in the atmosphere, to subject the air entering an operating-room to the influence of artificial showers, so as to precipitate to the ground the whole or the greater part of these organisms? They were known to be heavier than the air, because they entirely disappeared from the air within a tight box which had been for several months in one position, but the principle of rest was impracticable. The same was true of dry filtration, by means of cotton or other like substances used to entangle matter floating in the air, on account of the rapidity with which it was necessary for the air to enter and leave the room in order to displace the germs. If, however, we could cause the air entering the room to pass through several showers of water, we had an expedient which might entangle these objects and carry them to the ground. The speaker then gave an elaborate description of such a device, spray being used in an apartment beneath the operating-room, through which the air could be made to pass before entering the room.

The Field and Limitation of the Operative Surgery of the Human Brain.—The afternoon session was opened with the reading of a paper with this title, by Dr. JOHN B. ROBERTS, of Philadelphia. The complexus of symptoms called "compression of the brain" was not due so much to displacing pressure exerted on the brain substance as to some form or degree of intra-cranial inflammation. The conversion of a simple fracture of the cranium into a compound fracture by incision of the scalp was, with the improved methods of treating wounds, attended with very little increased risk to life. The removal of portions of the cranium with the trephine or other cutting instruments was, if properly done, attended with but little more risk to life than amputation through a metacarpal bone. In the majority of cranial fractures the inner table was more extensively shattered and splintered than the outer table. Perforation of the cranium was to be adopted as an exploratory measure almost as often as it was demanded for therapeutic reasons. Drainage was more essential in wounds of the brain than in wounds of other structures. Many regions of the cerebral hemispheres of man might be incised and excised with comparative impunity. Accidental or operative injuries to the cerebral membranes, meningeal arteries, or venous sinuses should be treated like similar lesions of like structures in other localities. The results of the study of cerebral localization were more necessary to the conscientious surgeon than to the neurologist.

An elaborate table was then given of the proper points for trephining for various cerebral lesions, and the principles which the reader had maintained were stated to be applicable as follows: A. CRANIAL FRACTURES.—*Simple fissured fractures:* 1. No evident depression, no brain symptoms; no operation. 2. No evident depression, but brain symptoms; incision of the scalp and possibly trephining. 3. Evident depression, but no brain symptoms; incision and possibly trephining. (He would be inclined to trephine if the depression was marked, or if the fissures were sufficiently numerous to make the fracture approach the comminuted character.) 4. Evident depression, with brain symptoms; incision and trephining. *Simple comminuted fractures:* 5. No evident depression, and no brain symptoms; incision and probably trephining. (He would trephine unless the comminution was found to be inconsiderable.) 6. No evident depression, but brain symptoms; incision and trephining. 7. Evident depression, but no brain symptoms; incision and trephining. 8. Evident depression and brain symptoms; incision and trephining. *Compound fissured fractures:* 9. No evident depression, and no brain symptoms; no operation, but treatment of the wound. 10. No evident depression, but brain symptoms; trephining. 11. Evident depression, but no brain symptoms; possibly trephining (the same remark applying as in the third case.) 12. Evident depression and brain symptoms; trephining. *Compound comminuted fractures:* 13. No evident depression and no brain symptoms; probably trephining (the same remark applying as in the fifth case). 14. No evident depression, but brain symptoms; trephining. 15. Evident depression, but no brain symptoms; trephining. 16. Evident depression and brain symptoms; trephining. *Punctured and gunshot fractures:* 17. In all cases and under all circumstances, trephining. B. Intra-cranial Hæmorrhage.—Trephining for the removal of the clot and arrest of bleeding when the probable seat of the hæmorrhage was ascertainable and the clot was believed to be localized. C. Intra-cranial Suppuration.—Trephining and, if necessary, exploratory punctures in all cases of abscess. D. Epilepsy following Cranial Injury.—Removal of a portion of the cranium in selected cases. E. Insanity following Cranial Injury.—Removal of a portion of the cranium in selected cases. F. Cerebral Tumor.—If its situation could be ascertained, and if it was probably superficial, removal of bone and excision of the growth, if it was found.

Dr. Hunter McGuire, of Richmond, said that this branch of surgery was still in its infancy and no one could tell what the future had in store for the surgery of injuries and diseases of the brain. Looking over the synopsis of the paper, he found that the only two cases in which operations were not recommended were those numbered 1 and 9, where there was no evident depression and no brain symptoms. Under all other conditions we were told to trephine, probably trephine, or possibly trephine. The adoption of such rules would take us back about a hundred years in the history of surgery, to the times when a man would boast of the number of holes he had in his skull, and the surgeon would boast of the number of holes he could make without killing the patient. These doctrines were most dangerous to send out to the world. To advise trephining in all these injuries of the brain and skull would be most injurious, especially to the younger practitioners. The truth was that no set of rules could be laid down which would apply to all cases. Every case must stand by itself. With regard to the first view advanced, he would like to ask how Dr. Roberts accounted for the almost instantaneous presence of symptoms of compression of the brain after an injury. He could not see how it would be possible to explain them on the theory of inflammation. In regard to the second proposition, in reference to the risk following the conversion of a closed fracture into an open one, he could not agree with him. It was either Cooper or Hunter who had said that there was between the trephine of the surgeon, the patient, and eternity only a thin sheet of paper. How the reader could have come to the conclusion that the operation of trephining was so simple was beyond his comprehension. In regard to drainage, he concurred in what had been said. In his last case of trephining he had removed a portion of the scalp as large as the trephine, so that the drainage might be perfect. He had with him a specimen showing the correctness of the statement that in the majority of cranial fractures the inner table was more extensively shattered than the outer one. It was taken from a man suffering from epilepsy due to a punctured fracture of the skull. This had been going on for two or three years, and the mind was becoming affected. There was no depression, and the only guide was the scar in the scalp. On the inner plate a spicule of bone was found to which the arachnoid and dura mater were attached. When these were separated there was a free escape of the cerebro-spinal fluid. This man recovered from the operation, but the case was too recent to permit us to judge in regard to the final result. Another case in which he had trephined was that of a colored man in the Central Insane Asylum of Richmond. No history of the case could be obtained. The man sat crouching in one position, never saying a word to any one. The skull was trephined and the depressed bone removed. A few hours later the man asked, "Where is the army to-day?" He said to him, "Where was the army yesterday?" He replied, "It was at Manassas." He alluded to a period nine years previously. At that time he was fishing with a companion, when the latter advanced toward him with a boat-hook. From that time until after the operation his mind had been a complete blank. That man was now working as a day-laborer.

Dr. Moses Gunn, of Chicago, said that three years ago he had covered some of the ground gone over to-day. At that time he advocated the more frequent use of the trephine, and endeavored to establish the proposition that in fracture of the skull with depression, where the injury was unaccompanied with laceration of the scalp, the rule should be to elevate the depressed bone, as had been the universal rule in compound fractures with depression. The advanced methods of treating wounds gave us such advantages that we could with immunity convert a simple fracture into a compound one. The proposition met with considerable opposition, but he had no hesitation in saying that such a simple fracture should be made a compound fracture. At that time Dr. McGuire made almost precisely the same objections as he had made to the paper of to-day. The speaker was very glad that Dr. Roberts had presented this paper, and he would criticise it very lightly. He believed that, if the rules which had been given were applied with sound judgment, they could be followed not only with safety but with great benefit. There was one point referred to by Dr. McGuire in which he coincided. That was in reference to the first proposition. This proposition was true, he believed, in the large majority of instances. Many of the symptoms spoken of as due to simple compression were the results of irritation and inflammation. So far as compression of the brain was concerned, he did not consider it an important condition. As the president had said three years ago, if this were the only symptom produced by a depressed fracture, he would never use a trephine. In a short time the brain would accommodate itself to the mechanical effects of compression. The danger was, however, from the irritation and inflammation excited by such injuries. The inflammation of the bone in healing led to augmentation of bone tissue and the formation of osteophytes. He would not say that there was no such thing as mechanical compression from the depressed bone. Where the symptoms followed the injury immediately there was no time for the occurrence of inflammation.

Dr. Charles B. Nancrede, of Philadelphia, said that there were many points on which he agreed with the writer of the paper, but there were others on which he could not agree with him, while on others he was not willing to go so far as he did. In regard to the first proposition, he agreed with the previous speakers. If he used the term secondary compression, he would agree that it was due to some form of intra-cranial inflammation. As to what was the true nature of those cases in which symptoms of compression immediately followed the injury, the question had not been positively settled. The experiments of Fischer, of Berlin, might help to solve it. Where irritation of a sensory nerve of the scalp or of some distant point was produced, it was followed by a spasmodic contraction of the vessels of an area of the brain, with abolition of its function. He did not believe that any one who would look at the subject in a proper light could doubt that the conversion of a simple fracture into a compound one, even under modern methods of treatment, did add to the danger of the injury. The third proposition was true if no accident happened, but there were liabilities to certain accidents in trephining which were not met with in amputation through the hand. Injury to the brain membranes was possible under the best of care. He must dissent from the fifth proposition, but in regard to the question of drainage he agreed with the reader. He must differ with him on the seventh proposition.

In regard to injuries to the sinuses, his rule was, when there was reason to suspect that one of the sinuses had been wounded, to act as if it had been wounded. He was cognizant of two cases, in good hands, where the patient perished because this was not done. In one of the cases alluded to by Dr. Roberts, that of a patient of Dr. Hopkins's, he was acquainted with the particulars. This was in the person of a brakeman supposed to have been thrown from his train by a bridge. There was a fracture of the upper portion of the parietal bone. When he saw the case he suspected that the longitudinal sinus was injured, and suggested to Dr. Hopkins that he proceed on that view. This he did. When the disc of bone was removed, there was a sudden gush of blood, which was readily controlled by pressure. Several attempts were made to tie the vessel, but, when the tenaculum or forceps was removed, the bleeding began again, but was finally checked by means of pads of lint sprinkled with iodoform. That patient was now well.

The speaker had devoted considerable time to the question of cerebral localization. All that he was prepared to say was, that we were fairly well acquainted with the motor centers. Great care should be exercised in trephining for irritation of the sensory centers. These were probably more deeply situated than the motor centers. A short time ago he had seen a case in which, if there had been a head injury, the troubles might have been ascribed to such injury.

In regard to the treatment of fractures of the skull, he divided cases into three classes. In one of them there was such concomitant injury to the brain that, whether we trephined or not, the patient would die, although the elevation of the fragments might help to prolong life. These deaths were constantly recorded in statistics as due to trephining, and this was one thing that made these statistics so unreliable. There was a second class, at the other extreme, in which the lesions were so slight that the patient would probably recover, if the secondary effects produced by the depression could be prevented. Between these two there was a third variety of doubtful cases where trephining was indicated. Patients did sometimes recover without operation, but few of them were well ten years later. The reader had cited statistics showing that the mortality after trephining was only 3·6 per cent. He could not understand how those statistics were obtained. He had carefully reviewed the literature of the subject, and found that there was 10 per cent. of deaths. The reader had referred to the puffy tumor of Pott as indicating suppuration. It indicated osteomyelitis, which frequently was associated with suppuration.

In regard to subnormal temperature, in the cases that he had seen, where there had been a pure cerebral abscess, the temperature had been normal or subnormal, and this had been the case when the abscess had followed suppurative ear disease. In a case of simple fracture, he would wait for symptoms of irritation before applying the trephine. Reference had been made to foreign bodies. In such cases the patients often got well without the foreign body being removed, but few of them remained perfectly well. Where the body had been removed, the proportion of recoveries was larger and the improvement of the mental and physical condition greater.

Dr. Washington F. Peck, of Iowa, said that his experience had led him to coincide with the majority of the opinions expressed by the reader. The first thing to determine in these cases was whether or not there was a solution of continuity of the skull, and, in the second place, whether or not there was pressure on the cranial contents. He believed that the pressure of bone was capable of directly producing symptoms of compression, although the latter were more commonly the consequence of pressure from inflammatory products. Some years ago he had attended a brakeman who had been struck on the temporo-maxillary region. He saw him twelve hours after the accident, and found him suffering with the symptoms of compression. There was a fracture, and he made two holes with the trephine, removing two square inches of bone. The man gradually recovered consciousness. Four days later he had a convulsion. An abscess of the brain was then found, which was incised, giving vent to over an ounce of pus. From that time, recovery was uninterrupted. A boy was shot in the frontal bone. There were immediate symptoms of compression. He was trephined, and there escaped a large clot of blood. The boy was now perfectly well. In a third case, a child was struck with a piece of coal, causing a fracture with depression of half an inch. There were no symptoms, and he did not trephine. The child was still entirely well.

Dr. T. F. Prewit, of St. Louis, thought that the propositions presented were entirely too sweeping. Compression certainly depended on other causes than inflammation. It might take place from depressed bone, and frequently resulted from a collection of blood, although then it took place more slowly. It seemed to have been overlooked that the results of a blow on the head were not due entirely to the fracture, but depended upon the amount of injury inflicted upon the brain and its membranes. Although under antiseptic precautions we were able to control inflammation, he did not consider it proper to convert a simple fracture into a compound one without good reason. In cases of simple depression without any symptoms, unless the character of the injury was such as to make us believe that the inner table was driven in sharply, we could afford to wait. In regard to hæmorrhage, where there was much hæmorrhage going on, and so pressing upon the brain as to destroy the life of the patient, it would be advisable to operate; but, unless such was the case, it would be wise to wait, for the blood would certainly be absorbed.

Dr. Charles T. Parkes, of Chicago, described a case illustrating the amount of injury which might be inflicted on the brain without the production of positive symptoms. A man received three fractures of the skull, one being a depressed fracture of the vault. This was trephined and a drainage-tube introduced. On the fourth day there ensued a free flow of cerebro-spinal fluid. The only explanation of this was the possibility of a laceration of the brain substance communicating with the ventricles. In similar cases reported by Dr. Lucas, this condition was found post mortem. In reference to injuries of the longitudinal sinus, in a case which he had seen, where a ligature could not be applied, he checked bleeding by stitching the edges of the vessel together. The patient recovered. One case bearing on the localization of the injury had been reported. In this case a compound fracture of the parietal bone was produced, with considerable escape of the brain substance. The trephine was applied, and the finger introduced into the wound came across the sight of a pistol, the weapon with which the injury had been inflicted. This was removed, and a large portion of the brain tissue in contact with the tentorium cerebelli came away, yet the patient presented no symptoms of interference with sensation. The man got well.

Dr. J. Collins Warren, of Boston, said there was great difficulty in securing free drainage in wounds of the brain. He would give some cases showing the difficulty of diagnosis. The first was that of a child with a depressed fracture. No symptoms were presented for a week, when complete deafness was noted. The child soon died, and at the autopsy pus was found in the fourth ventricle. In a second case the patient was unconscious and delirious for four weeks before death. At the autopsy no lesion of the brain could be detected, but a considerable quantity of clotted blood was found in the peritoneal cavity. He had also seen symptoms simulating those of injury of the brain arise from periostitis and possible cellulitis at the back of the neck. Another case would serve to illustrate some of the remarks made in reference to the localization of cerebral lesions. It was one of injury of the head in which there was at first paralysis of the lower extremities, then paralysis of the arms, and finally paralysis of the face. These succeeded each other in regular order, and, as they disappeared in the same order, they were attributed to an effusion of blood into the upper part of the cranium, which gradually gravitated, producing the symptoms referred to.

Dr. Louis McLane Tiffany, of Baltimore, wished to refer to one or two points which had not been alluded to in the paper. The first was that we must draw a line between the fractures occurring in childhood and those occurring in adults. In children he had seen the depressed bone resume its normal position, the child showing no bad effects from the injury. The second point was in regard to the differences between the white and negro races. In the latter, fracture of the skull, and in fact any injury, was less serious than in the white race. There was no doubt about the different course that inflammation took in the two cases.

Dr. S. W. Gross, of Philadelphia, considered drainage of wounds in the brain as more essential than in wounds of other portions of the body, because the pressure of inflammatory products interfered with the proper function of the brain. It was exceedingly difficult to drain the brain. Dr. Noyes, of New York, had done it several years ago by making a counter-opening and passing a drainage-tube through, and the patient recovered. The question of trephining in gunshot injuries had not been referred to. This was important from a medico-legal standpoint. We should apply to these injuries the same principles which governed us in the treatment of injuries of the soft parts in other situations. Reference was then made to the case described by Dr. Fluhrer in a recent number of the "New York Medical Journal."

Dr. E. M. Moore, of Rochester, thought that one of the most successful improvements in the treatment of wounds was drainage. The idea of using drainage-tubes was of modern origin. In the cases of gunshot injury which he had seen he had uniformly found that the ball traversed the brain, usually with force enough to pass at a reflected angle a little away from the point where it impinged. In his last case he had trephined over this latter point and found the bullet. He then attempted to pass a drainage-tube through the wound, but was unable to do so. It seemed to him that this was the proper plau to pursue.

Wednesday's Proceedings.

The discussion of Dr. Roberts's paper was resumed.

Dr. David Prince, of Jacksonville, Ill., was in general accord with the teachings of the paper. From being one of the most dangerous operations, the use of antiseptic methods has made trephining one of the safest. The comparison of trephining to the amputation of a finger was probably an exaggeration, but it was as easy to prevent putrefactive changes in the one as in the other. If, however, such changes took place in an amputation wound, they did not necessarily endanger life, while if they occurred in trephining wounds loss of life was almost certain. An important element in the success of these operations was rest, which should be enforced absolutely.

Dr. John H. Brinton, of Philadelphia, thought that in all cases of compound fracture of the skull with depression, with or without symptoms, the treatment was clear. The only cases in which there was doubt was where there was a simple depressed fracture without symptoms or with only slight ones. In such cases the patient was exposed to certain dangers, and to avoid these he would use the trephine.

Dr. T. McGraw, of Detroit, would take exception to the statement that compression in itself was not such a very bad thing, and that the brain would accommodate itself to pressure. This was undoubtedly true of children, but he did not think it was true of adults.

Dr. P. S. Conner, of Cincinnati, said that, if, in a depressed fracture, we removed the bone, we gave the patient a chance to avoid the consequences which might come. The operation was not a trivial one, the mortality following it in cases of epilepsy amounting to some ten per cent. We could not tell how much splintering there had been of the internal plate, and it was not the part of wisdom to leave the patient to the dangers of meningitis. Of course, as had been stated, the conditions in children were different.

Dr. B. A. Watson, of Jersey City, related a case illustrating the accommodation of the brain to pressure.

The President thought these questions were among the most vexed in surgery. There was one point to which the paper had not referred. There might be a diffused injury of the skull, as where a person fell from a height, striking the head. In such a case the injury was not limited to the cranial walls, and trephining was of no service. In another class the injury was localized, and only slightly affected the brain. It was only in these cases that trephining was of service. In cases of compression from depression he thought that, except in rare instances, the trephine was unnecessary; the symptoms were due to other causes than the depressed bone. In the case of hæmorrhage it was proper to use the trephine to relieve the pressure, but in the majority of cases it was useless. In abscess, it should be used on the same principle that we gave vent to pus in other parts of the body. The proper purpose of trephining, in his opinion, was to remove points of irritation produced by spicules of bone, and it should be resorted to at the earliest possible moment, before pathological conditions had appeared which could not be cured. In regard to the conversion of a simple fracture into a compound one, it had always been his practice, where there was any doubt about the nature of the injury, to make an incision down to the bone and examine it carefully. This had never been followed by any bad consequences. The danger of trephining depended on circumstances. The simple removal of a button of bone he did not think could be attended with much danger. The danger depended on the associated injuries.

Dr. Roberts said there were many points in the discussion to which he would not attempt to reply. The speakers had confounded the terms compression and pressure. Compression he used in the same sense as squeezing. The conditions found in the skull prevented the possibility of compression from a circumscribed depression. The symptoms immediately following depressed fracture he would ascribe to laceration, contusion, or possibly the obscure condition termed concussion. He thought that inflammation might develop with great rapidity in the brain, as it did after injury of the eye. Closed wounds were better than open wounds, but he preferred trephining to obscurity in head injuries.

He cited statistics showing that the mortality of trephining was 3·5 per cent., while the mortality of amputation of the finger was 4 or 5 per cent., thus authorizing the statement made in his second proposition. He then referred, at some length, to Dr. Fluhrer's case, described in the "New York Medical Journal." He admitted that in children and negroes the effects of depression were not so marked as in adults of the white race, and described an illustrative case. He did not advocate trephining in all cases, as would be seen by a careful reading of his propositions. He thought that in the course of a few years the views which he had presented would not meet well the opposition which had been shown to-day.

Nephrectomy: its Indications and Contra-indications.—This was the title of the next paper, by Dr. S. W. Gross, of Philadelphia. He had collected the statistics of two hundred and eleven cases of extirpation of the kidney, with one hundred deaths, or 47 per cent. The operation was a grave one and was done too frequently. The intention of his paper was to point out the indications for different operations on the kidney. The lumbar operation was safer than the abdominal, its mortality being 11·5 per cent. Nephrectomy was indicated in cases of sarcoma in adults. In fifteen cases, six patients had recovered, four living an average of thirty months. One was alive at the end of five years. It was indicated for benign tumors of the kidney. It was indicated also in early tuberculosis of the kidney. In twenty cases, twelve patients had recovered, and lived twenty months on an average. It was indicated in rupture of the ureter. Where there was subcutaneous laceration of the kidney he recommended exploratory incision and drainage, reserving extirpation as a final operation. Where the kidney protruded, other measures should first be adopted.

In recent wounds of the kidney or ureter, in such operations as hysterectomy and ovariotomy, he thought extirpation should not be done as a primary operation, on account of the danger from the combined shock. In suppurative affections of the kidney, nephrotomy had better be resorted to. In independent cysts of the kidney, nephrectomy had been performed thirty-two times, with fourteen deaths; nephrotomy had been resorted to thirty times with four deaths. In this operation the patient was, however, subjected to the risks of urinary fistula. In renal calculus, nephrectomy had been performed three times; all the patients recovered. Nephro-lithotomy had been resorted to twenty-one times, with two deaths. In floating kidney there had been twenty-two nephrectomies, with thirteen recoveries.

The operation was contra-indicated in sarcoma of the kidney in children. There had been thirteen cases, with four recoveries; in these cases recurrence took place in four, six, nine, and eighteen months, respectively. Carcinoma of the kidney was another contra-indication. Twelve cases had been operated on, with two recoveries, one patient living forty-four days, the other sixty days. In the advanced stage of tubercular disease it was also contra-indicated. In such cases there was tubercular disease of other organs.

Nephro-lithotomy.—Dr. L. McLane Tiffany, of Baltimore, read a paper on this subject, in which he described an operation in which a stone weighing five hundred and fifty-six grains had been removed. An extended account was given of the indications of the operation in general and of the technical details. The author thought the best plan was to make the opening into the kidney at the point which was exposed. He did not think it well to disturb the organ more than was necessary.

The subject was discussed by Dr. Gross, Dr. Gouley, Dr. McGraw, Dr. Conner, Dr. Prewit, and the author of the paper.

It was decided to omit the afternoon session, and devote the time to visiting the Johns Hopkins University at Baltimore.

Thursday's Proceedings.

The Healing of Arteries after Ligature.—Dr. J. Collins Warren, of Boston, read a paper on this subject, in which he described a large number of experiments which he had performed on various animals, and exhibited many specimens illustrating the views which he advanced. The various pathological changes in and around a vessel from the time the ligature was applied until the process of cicatrization was fully completed showed that the artery was invested by a protective layer of new tissue formed from the surrounding tissue, which, if well developed, gave great security against hæmorrhage until the permanent cicatrix had grown sufficiently strong. This might be likened to the provisional callus of bone. There was also an internal growth or callus formed from several sources, namely, from the intima to a slight extent, from the media more largely, also from cells finding their way from the surrounding tissue at a late stage through the retracted ends of the vessel. The thrombus was a mere passive structure, taking no part in the growth, but was protective, and afforded an excellent medium for the new tissue to germinate in. When the provisional part of the internal callus had disappeared we found remaining a cicatrix closely resembling the three coats of the artery, and affording, by virtue of its peculiar structures, an equally effective resistance to the pressure of the blood-column. The ligament which united the two ends of the vessel represented in part the residue of the external callus, but also a portion of the walls of the vessel which had been absorbed during the inflammatory process. A vessel successfully ligatured in its continuity could not, therefore, be said to have been "ulcerated" into two separate portions, but must be conceived of as a tube which had solidified into a columnar mass of tissue, a considerable portion of which subsequently shrank into a cord.

Dr. N. Senn, of Milwaukee, said that it was apparent from the drawings and specimens that a large amount of traumatism had been produced, and that antiseptic precautions had not been taken. The specimens showed the use of more force than was necessary in an ideal ligature, and he thought that the presence of the external callus was to be attributed to this excess of force. Such an amount of force was unnecessary, and was indeed harmful. The ideal result of ligature was secured by bringing the parts simply into approximation. If the vessel was tied with a temporary ligature, capable of being absorbed, it was not necessary that it should be divided. The ligature would hold the parts in contact while the process of granulation went on. It was different when a permanent ligature was employed. In such cases, even if the tunics were not divided by the pressure produced by the ligature, they were divided by absorption, or, in the event of suppuration, necrosed and were thrown off. Dr. Warren had compared the process of cicatrization in vessels to that in bones in fracture—a happy comparison. He would carry it a little farther. In fractures, if the parts were kept at rest and in perfect apposition, there would be a minimum amount of callus. So in ligature of a vessel, if a temporary ligature was employed under antiseptic precautions, a minimum amount of callus would form. The presence of muscular tissue in the cicatrix was a new idea, and he hoped that further research would confirm this observation. He must say, however, that it lacked the support of analogy. When muscular tissue was divided in other parts of the body it united by connective tissue. He would suggest that the pre-existing muscular tissue might have been displaced by cicatricial contraction and drawn into the cicatrix. Dr. Warren had wondered why aneurysm was so infrequent after ligation. He would say that after ligation the artery was put at rest. The muscular tissue was put at rest, underwent fatty degeneration, and was replaced by connective tissue, which is unyielding and prevented aneurysm better than muscular tissue would.

Dr. Warren said that in his illustrations he had shown those specimens which presented the appearances in the most marked degree. Even where the least force was used, and under antiseptic precautions, this external callus was present, although not to the same extent, sometimes being so slight as to require careful examination to reveal it. In regard to the question of analogy as bearing upon the development of muscular tissue, he would call attention to the fact that there was a difference between striped and unstriped muscular tissue, and to the development of muscular tissue in the uterus during pregnancy and in the development of myomata. In reply to a question by Dr. Prewit, he said that the clot took no active part in the process of cicatrization, but served a valuable purpose in protecting the vessel while healing took place.

Some Points in the Surgery of the Hypertrophied Prostate was the title of the next paper, by Dr. J. W. S. GOULEY, of New York. He gave a full *résumé* of our knowledge of the subject, under the following heads: 1. The determination, by physical exploration, of the size of the hypertrophied prostate, and the character of the obstruction to urination. 2. The circumstances under which medicinal treatment possesses value. 3. The selection of catheters. 4. Certain accidents of catheterization, especially false routes. 5. Evacuative catheterization, its good effects and its dangers. 6. Vesical irrigations to combat cystitis, their use and abuse. 7. Prostatotomy and prostatectomy, their indications and contra-indications. He presented many forms of catheters and instruments for removing portions of the prostate through the urethra. He advocated the exclusive use of soft catheters. On emptying the bladder in cases of retention he insisted upon the gradual removal of the urine, and the subsequent injection of a solution of boric acid. He described the operation which he had first done, and for which he claimed priority. This consisted in reaching the prostate through the perinæum and incising it. This was similar to the operation since described by Harrison.

Dr. GROSS considered the operation through the perinæum to be much better than one through the urethra.

Dr. PREWIT indorsed the recommendations of Dr. Gouley.

Dr. MOORE likewise agreed with Dr. Gouley in his statements. He also referred to a plan which he employed in cases of contracted bladder where there was frequent desire to urinate. This was to advise the patient to try to restrain his desire. By so doing the tolerance was increased, so that after a time the patient could hold the urine for four hours at a time. He described a case in which he had been called on to relieve retention in a man ninety-five years of age. The use of a catheter was required for some time, but finally the patient gained control over the bladder and lived to the age of one hundred and five years. This was the oldest patient he had anything to do with.

Dr. GUNN had also employed the method described by Dr. Moore, and had hit upon about the same period, that of four hours.

Dr. GOULEY had also employed the same plan.

Dr. ERNST, of Boston, presented a number of cultivation tubes, showing the micrococci from various surgical affections, and microscopical slides were also exhibited, showing these micrococci, the bacilli of tuberculosis, cholera, and cholera morbus.

Dr. WARREN described the clinical histories of some of the cases referred to by Dr. Ernst.

On motion, Dr. Ernst was requested to prepare a paper, giving the results of his experiments, to be read at the next meeting.

An Experimental and Clinical Study of Air-Embolism.—This was the title of the next paper, read by Dr. N. SENN, of Milwaukee. After giving a full account of his own experiments and those of others, he presented the following *résumé* of his investigations:

"1. The presence of adventitious air in the vascular system during life gives rise to air-embolism. 2. Each air-embolus constitutes a mechanical source of partial or complete obstruction to the flow of blood in the vessel in which it is located. 3. Aspiration during the inspiratory movements of the chest is the direct or exciting cause of the ingress of air into a wounded vein or sinus. 4. Elevation of the head is the sole predisposing cause of the entrance of air in wounds of the superior longitudinal sinus. 5. In veins, the predisposing causes consist in (*a*) Elevation of the part wounded, (*b*) Pathological or anatomical conditions which prevent collapse of the vein when it is wounded. 6. Insufflation of a fatal quantity of air into a vein produces death by (*a*) Mechanical over-distension of the right ventricle of the heart and paralysis in the diastole, (*b*) Asphyxia from obstruction to the pulmonary circulation consequent upon embolism of the pulmonary artery. 7. A given quantity of air introduced into arteries is less dangerous than when introduced into veins. When death is produced in this manner it results from (*a*) Acute cerebral ischæmia, (*b*) Secondary venous air-embolism, (*c*) Intense collateral engorgement of the vessels of the brain and spinal cord, the manner of death being determined by the amount of air injected and the direction in which the injection is thrown, as well as the time which has elapsed between the operation and the fatal termination. 8. Air injected into arteries is readily forced through the systemic capillaries into the venous circulation and right side of the heart by the powerful contractions of the left ventricle. 9. Air-embolism of the pulmonary artery is relieved in a comparatively short time, provided the contractions of the right ventricle continue unimpaired for a sufficient length of time to force the air through the pulmonary capillaries into the general circulation. 10. The prophylactic treatment consists in proximal or double compression or ligation of the vein which is endangered by the operation. 11. The indirect treatment has for its objects (*a*) Prevention of the admission of air, (*b*) Administration by inhalation or hypodermic injection of cardiac stimulants, (*c*) Venesection. 12. The direct or operative treatment by (*a*) Puncture and aspiration of the right ventricle, (*b*) Catheterization and aspiration of the right auricle, which is proposed to obviate the direct causes of death by the removal of air and spumous blood, thus relieving directly the over-distension of the right ventricle, and at the same time to guard against a fatal embolism of the pulmonary artery. 13. The results obtained by experiments on animals warrant the adoption of the operative treatment of air-embolism in practice as a last resort, in all cases where the indirect treatment has proved inadequate to meet the urgent indications."

The discussion was postponed until Friday.

Officers for the Ensuing Year.—The association then went into executive session, and elected officers as follows: President, Dr. Moses Gunn, of Chicago; Vice-Presidents, Dr. Christopher Johnston and Dr. Thomas P. Russel, of Baltimore; Secretary, Dr. J. R. Weist, of Richmond, Ind.; Recorder, Dr. J. Ewing Mears, of Philadelphia; Treasurer, Dr. J. H. Brinton, of Philadelphia. Dr. L. McLane Tiffany, of Baltimore, was added to the Council.

It was voted to hold the next meeting at Washington, beginning on the Wednesday preceding the meeting of the American Medical Association.

New Members were elected as follows: Dr. J. Edwin Michael, of Maryland; Dr. Roswell Park, of Buffalo; Dr. W. H. Carmalt, of New Haven; Dr. J. Ford Thompson, of Washington; and Dr. Theodore R. Varick, of Jersey City.

Honorary Members were elected as follows: Sir James Paget, Mr. John Eric Erichsen, and Sir Joseph Lister, of London; Professor Annandale, of Edinburgh; Professor Esmarch, of Kiel; Professor von Langenbeck, of Berlin; Professor Volkmann, of Halle; Professor Czerny, of Heidelberg; Professor

Billroth, of Vienna; Professor von Nussbaum, of Munich; Professor Verneuil, of Paris; and Professor Ollier, of Lyons.

Friday's Proceedings.

The discussion of Dr. Senn's paper was taken up.

Dr. WARREN, of Boston, thought the lesion was of more importance in obstetrical than in surgical practice. The entrance of a certain amount of air into veins was not rare, but alarming symptoms were not frequently met with. He presumed that it was of importance only when some large venous sinus was opened. It was in obstetrical practice where we met with this accident in all its hideousness. Several cases of air-embolism had occurred in Boston, and had been due to efforts to produce abortion. The paper seemed more valuable in acquainting us with the mode of development of the condition, and thus showing us how to prevent it, than in telling us how to help the patient after the occurrence of the accident. It had been stated that in these cases the only function of the physician is to be present at the autopsy and confirm the diagnosis, and this about expressed the truth. Theoretically, aspiration seemed to be indicated, but probably there would never be such a consensus of circumstances as would enable the operation to be practiced. Such accidents were like a stroke of lightning; the patient was dead the moment the accident was recognized.

Dr. SETH C. GORDON, of Portland, was introduced by Dr. Moore, and related an interesting case in which the accident had resulted from the unskillful use of an aspirator in a case of pelvic abscess.

Dr. C. B. NANCREDE, of Philadelphia, said that Dr. Senn had referred to the fact that in the horse the injection of large quantities of air was required to produce a fatal result, and had ascribed this to the strength of the right ventricle in that animal. A better explanation, the speaker thought, was the fact that the pulmonary capillaries in that animal were larger than in most other animals. It had been shown that the one thing chiefly necessary for free capillary circulation was a proper density of the blood. As a result of the admixture of air with the blood, its density was suddenly altered and it would not circulate through the lung capillaries. He thought the fact that spumous blood would pass through the pulmonary capillaries of the horse was to be explained by the size of the vessels. He did not think that death was a simple matter in air-embolism. The chief cause was anæmia of the center of respiration. In the experiments which have been related large quantities of air had been introduced, and the heart was distended with air; but this was not the case in the accidental entrance of air during an operation. In such cases, the heart is frequently not distended with air, and often beats with great force after the cessation of respiration. Death resulted from the want of arterial blood in the center of respiration. This was probably produced by the alteration in the physical conditions of the blood interfering with its power to close the cardiac valves, so that it was churned from ventricle to auricle. Under such circumstances, aspiration might be valuable.

In regard to the causes of the entrance of air, there were some that had not been mentioned by Dr. Senn. In operations on the neck or axilla, the constrained postures in which the body was sometimes held might tend to hold the vein open and permit the entrance of air. Traction on a tumor while dividing its last attachments would do the same thing. There was another rare condition, namely, the division of a vein in the angle of the wound, so that when the flap was raised the vein was held open. Dr. Senn had remarked, in regard to the cases in which air had been supposed to have been generated in the blood, that in all the cases on record free hæmorrhage had occurred, and that there might possibly have been an open vessel. He must demur to this, for he had had a case in which this explanation could not have been correct. There were several other instances on record, especially in cases of septicæmia, where the cellular tissue was full of gas.

As had been said, the preventive treatment was of far more importance than the curative. In operating in a position where there was danger of the entrance of air he always adopted certain precautions. He considered complete anæsthesia of great importance. In removing tumors from the neck, he usually tied the deep attachments or secured them with forceps before removing the tumor. If possible, he never made a cut when there was any tension on the neck or axilla, unless a finger was placed on the vein on the cardiac side. When the accident had occurred, artificial respiration in the recumbent position was of great importance. The further entrance of air was to be prevented by ligating, or, if this could not be done, by squeezing a sponge into the wound. Besides the use of the ordinary remedies to sustain the action of the heart, he would recommend that of atropine. With atropine the pulmonary capillaries could be dilated to their fullest capacity, and it also stimulated respiration. It had been shown that, if the patient could be kept alive for a short time, he might recover temporarily. After such recovery, however, a form of pneumonia usually appeared which was to be treated like the ordinary form.

Dr. SENN, being absent, was given permission to write out his reply and have it printed in the "Transactions."

The Ætiology of Tetanus was the subject of the next paper, by Dr. P. S. CONNER, of Cincinnati. There was a lack of evidence, he said, to support the view that the disease had its origin in inflammation of the nervous structures. It was doubtful if we could accept the common impression that injuries of the hand and those of the foot were especially likely to give rise to tetanus. In fact, all the theories that had been broached were unsatisfactory. Perhaps we should look for the solution in a changed state of the blood, which might be due to infection, but this would scarcely account for the idiopathic cases.

The subject was discussed by Dr. MOORE, Dr. NANCREDE, and several others, an interesting point brought out being the frequency of tetanus after wounds of the hand with the toy pistol. Dr. Nancrede stated that nitrite of amyl had seemed to give marked relief in one case of tetanus under his observation.

Dr. PREWITT referred to two cases of recovery after the use of bromide of potassium, chloral, and five-drop doses of Fowler's solution every three hours, for two weeks in one case. He thought there was a special tolerance of arsenic in those affected with the disease.

A paper on the immediate cure of fistula in ano, by Dr. Stephen Smith, of New York, was read by title, and the history of a case of cholecystotomy, by Dr. C. T. Parkes, of Chicago, was read by Dr. Gunn.

Phosphorus Necrosis of the Jaws.—Dr. J. EWING MEARS, of Philadelphia, read a paper on this subject, which closed with the following conclusions: 1. That the disease was a local expression of the constitutional condition produced by the inhalation of the vapor of phosphorus, and by particles of the agent taken into the system with the food by operatives in match factories who did not give proper attention to cleanliness of the hands. 2. That the introduction of the agent into the system was, as a rule, very gradual and in such small quantities as to avoid the production of symptoms of acute poisoning. That in this way the chronic toxic condition of the system was induced, characterized chiefly by disintegration of the red-blood corpuscles and fatty degeneration of the arterial coats. 3. That the toxic condition preceded the jaw disease, as was shown by the fact that the disease did not attack operatives recently exposed to the action of the agent, but those who had been exposed for a period of years. 4. That examination of the teeth of operatives had shown that many who had caries, and had returned to work immediately after the extraction of teeth, had enjoyed immunity from the disease, showing that the agent had not attacked the periosteal tissue thus exposed. This was further shown by the fact that in one of the cases necrosis did not appear until three months after labor in the factory had ceased. 5. That individuals varied in their susceptibility to the action of the poison; for this reason many suffered immediately with acute symptoms, such as nausea, vomiting, etc., and were compelled to abandon work in the factories. 6. That the conditions under which experiments had been made on animals, to prove the absence of the disease until exposure of the periosteum and peri-alveolar tissue was effected, were not similar to those to which operatives in match factories were subjected. 7. That treatment of the disease in the primary stage was efficient and prevented its progress. 8. That the antidotal powers of turpentine had been established. 9. That the disease was to be prevented among operatives by the adoption of thorough methods of ventilation, stringent rules with regard to cleanliness, and the free disengagement of the vapor of turpentine in all the apartments of factories in which the fumes of phosphorus escaped.

CHICAGO MEDICAL SOCIETY.

Meeting of April 20, 1885.

The First Vice-President, Dr. Charles W. Purdy, in the Chair; Dr. Liston H. Montgomery, Secretary.

Nervous Symptoms due to Overlooked Anomalies of the Eye and Ear.—Dr. H. Gradle read a paper with this title, in which he referred to a classification of diseases according to their ætiology which he had proposed at the meeting of the Illinois State Medical Society the year before. In the paper now read, various instances were presented that had come under his observation. The special interest which these cases presented lay in the fact that the eye and ear symptoms were so insignificant that the primary trouble was either wholly overlooked or at least not supposed to have any connection with the more annoying nervous symptoms in distant parts. The only structure of the eye irritation of which the author had ever known to cause disturbance at a distance was the ciliary muscle. The undue strain to which this muscle was subjected in hypermetropia and astigmatism accounted for much of the trouble. Notes of twenty cases were in his possession in which the patients, and generally their medical attendants, had had no definite idea as to the cause of the difficulty. In most cases of weakness of the eyes the pain or the diminished sight showed the sufferer that his eyes were at fault. The commonest symptom produced by eye strain was headache, which was always frontal or temporal, though it might extend in nervous persons over the entire head, even to the back of the neck. With some patients the pain was constant; with another class it occurred only after exertion of the eyes—perhaps most commonly a moderate pain existed without intermission, but was made worse by work; it was usually described as a dull ache. This form of headache had been permanently removed by the use of proper spectacles. In some of the cases of astigmatism it had been necessary to keep the ciliary muscle paralyzed by the use of atropine for a few days, in order to have the glasses worn with comfort. He could not corroborate the view that hemicrania was sometimes due to refractive anomalies, or rather to the eye strain which they engendered. He had never seen migraine cured by glasses alone. Undoubtedly the correction of eye strain would facilitate the cure, or at least mitigate the migraine. With or without headache, dizziness was a common result of eye strain, but this rarely involved any danger of falling or a tendency to reeling, being more commonly a dazed feeling, a difficulty of concentrating either the thought or the sight on any one subject. Gastric disturbance also occurred sometimes, yet there was no stomach disease but what was dependent on an overlooked anomaly of refraction. Some patients, however, stated that the eye strain of which they were conscious gave them a feeling of gastric uneasiness. A marked case was cited showing decided gastric symptoms occurring as the result of a change from spectacles to eye-glasses.

Ear lesions also might cause disturbances at a distance. He had notes of fifty-five cases in which aural treatment had surprised the patients by curing their troubles in distant parts. It was well known that irritation of the walls of the meatus would produce cough in many persons. A case was cited in which obstinate paroxysmal cough had been cured by curing an eczema of the meatus; also another in which spasmodic cough in a child had been cured by removing a mass of epithelial scales from the meatus. This peculiar disease of the epithelium was always accompanied by some interference with the permeability of the Eustachian tube, probably due to congestion. The existence of these casts in the meatus did not always produce local symptoms. The most frequent distant symptom produced by this ear disease was headache, generally diffuse and often very persistent.

Several additional cases were cited showing the diversity of the distant symptoms produced by various affections of the ear.

The Treatment of Croup, and Intubation of the Larynx.—Dr. F. E. Waxham read an elaborate paper on this subject, in which reference was made to the host of so-called specific remedies that had been proposed. Not only should the treatment vary in different cases, but it should be changed in different stages of the same case. Among the most important indications were the following agents:

To prevent, as far as possible, the formation of false membrane.	Cold applications. Blisters. Quinine. Digitalis. Aconite. Veratrum. Emetics. Purgatives.	
To cause the dissolution and expulsion of the membrane when it had formed.	Spray of....	Pancreatin. Lime-water. Liquor potassæ. Lactic acid. Phosphoric acid.
	Bichloride of mercury. Lactate of iron. Emetics.	
To control laryngeal spasm.......	Opium; bromide of ammonium.	
To prevent complications.........	Uniform temperature.	
To support the strength..........	Nourishment; stimulants.	
In case of threatened suffocation...	*Tubage* of the larynx; tracheotomy.	

The writer dealt minutely with each of the measures given in the table. To fulfill the first indication, namely, to prevent plastic exudation, it was certainly clear that, so far as we were successful in controlling the local inflammation, so far should we succeed in limiting its product, the exudate. To meet the second indication, we must use solvents and emetics, of the former of which the most satisfactory was trypsin, next in order being lime-water, liquor potassæ, and a ten-per-cent. solution of lactic or dilute phosphoric acid. They should be used in the form of a spray, with the kind of atomizer that had been recommended by Dr. Henry Dwight Chapin, in his article published in the "Medical Record" for March 7, 1885, which had a nozzle rounded at the end, that should be directed downward at a right angle to the stem of the atomizer. The solutions, to be of benefit, must be used frequently, at least every half-hour. False membrane would be dissolved in the lime-water of the pharmacopœia in from seven to twenty minutes, yet the vapor of slaking lime, used in whatever form, was useless as a solvent; at least, if any benefit was derived from inhalations of it, it was due simply to the moisture. Regarding the use of lactate of iron, it had slow digestive properties. Of five cases treated with bichloride of mercury, both before and after tracheotomy, but one had terminated favorably, and this was ascribed to other treatment having been used as well. Alum, or alum combined with ipecac. was as good as any emetic to cause the rejection of the false membrane. Opium served a double purpose by relieving laryngeal spasm and controlling pain. Interesting and minute histories of cases of nasal diphtheria, pseudo-membranous laryngitis complicated with broncho-pneumonia, etc., were then recited, with accounts of the treatment in detail. From experiments on the membrane ejected in one of the cases of the latter variety, the writer had been led to the conclusion that the quickest and most satisfactory solvent was one made according to the following formula:

Pancreatic extract (Fairchild's).........	30 grains;
Bicarbonate of sodium	6 "
Glycerin, Distilled water, } each..................	1 ounce.

Lime-water in the form of spray was a rapid solvent of false membrane, but it did not act so quickly as a solution of pancreatin. Lactic acid was not a satisfactory solvent. Regarding *tubage* of the larynx, to Dr. J. O'Dwyer, of New York, belonged the great credit of originating this method of treating croup, which the reader then illustrated by manipulations upon the head of a cadaver, explaining the advantages of intubation over tracheotomy. With a little dexterity and practice, it could be performed very easily and quickly, and without danger. There was no mutilation or disfigurement of the patient. There was no wound that might be the cause of shock or the source of systemic infection. The laryngeal tube could be worn much more easily, and with much less irritation, than the cannula after a tracheotomy. Coughing and expectoration occurred just as easily. It did not require the close and unremitting care of the medical attendant, like the tracheotomy-tube. The air that reached the lungs was warmed by its contact with the upper air-passages, and not so likely to cause bronchitis or pneumonia. Much less objection would be raised by parents against tubing.

Dr. F. O. Stockton had himself made a number of experiments with tubes of various sorts, before he had been aware of Dr. O'Dwyer's achievement, but they had not been wholly satisfactory. The honor seemed to be due to Dr. O'Dwyer of having succeeded.

Dr. D. A. K. Steele had seen a case in consultation with Dr. Waxham, and could corroborate what that gentleman had said as to the immediate relief produced by the passage of the tube.

In reply to questions by Dr. E. Andrews, Dr. Stockton stated that the tube could not slip down into the trachea, because, as he had said before, of the resistant nature of the vocal cords, and because of the length of the tube, which reached nearly to the bifurcation. The tubes were not liable to fill with membrane, as they were gold-plated and could not corrode, and the surface was perfectly smooth, so as not to afford lodgment to foreign bodies that would plug the tube and cause it to be drawn into the trachea in inspiration.

Dr. Waxham said that the effort to remove the tube would cause contraction of the glottis. The longer the tube was, the less danger there was of its being expelled.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of March 17, 1885.

The President, Dr. J. A. McCorkle, in the Chair;
Dr. Z. T. Emery, Secretary.

Note on Antipyrine.—Dr. Glentworth R. Butler read a paper with this title. [See page 488.]

Dr. B. F. Westbrook said that he had been unfortunate enough not to hear the paper, as he had desired. He would, however, show a specimen of antipyrine, for the benefit of some of the gentlemen who might not have seen it. It would be seen that it was a powder, amorphous in character, grayish in appearance, with a slightly bitter taste. He had had a solution prepared with syrup of tolu, but he had not had time to procure a specimen for the meeting. A drachm of the powder, with an ounce and a half of syrup of tolu, had no taste whatever except that of the tolu. He had given such a mixture to children, and they had not objected to it or failed to retain it. Dr. Butler had not spoken of the value of this remedy in bronchitis, and especially the capillary bronchitis of infants. He (Dr. Westbrook) had used it considerably for that disease in private practice, where it was difficult to get accurate records. He had sometimes given it with a sixtieth of a grain of tartar emetic, or a sixteenth of a grain of codeine, at a dose. It allayed the fever and quieted nervous irritability. He was quite sure that its action in bronchitis would be found to be beneficial. It diminished inflammatory action, and therefore lessened that of capillary bronchitis, and especially its liability to pass into lobular pneumonia.

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New Inventions, etc.

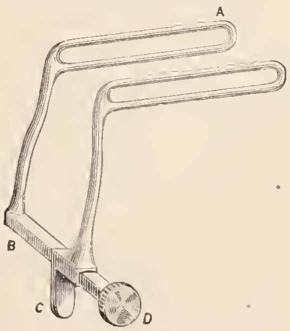
A NEW SELF-RETAINING URETHRAL (FEMALE) SPECULUM.

By B. Bernard Browne, M.D.,

PROFESSOR OF OBSTETRICS AND GYNÆCOLOGY IN THE BALTIMORE POLYCLINIC AND POST-GRADUATE MEDICAL SCHOOL.

This speculum, as will be seen by the accompanying cut, consists of two parallel fenestrated blades, one of which, *A*, is connected by its proximal end to a shaft which is attached to the rectangular bar, *B*. The other blade is connected with the rectangular bar by means of the slide, *C*.

The blades are introduced closed; pressure upon the thumb-piece, *D*, and the slide, *C*, will expand the speculum as far as the urethra will admit of, and the pressure of the urethra upon the extremities of the blades will hold the slide stationary at any desired point of dilatation. Slight pressure on the slide, *C*, will release the blades from their fixed position.



The simplicity of the mechanism of this speculum and the facility with which the urethra is examined with it induce me to offer it as an additional aid in the diagnosis and treatment of urethral diseases. It is constructed upon the same principle as that involved in the ingenious eye-speculum of Professor Russell Murdoch, of Baltimore, a description of which was first published in the "Transactions of the American Ophthalmological Society" for 1883. The speculum is made by Willms & Co., of Baltimore.

307 Madison Avenue, Baltimore.

Miscellany.

Supra-pubic Lithotomy.—We are indebted to Dr. W. S. Tremaine, of the army, professor of surgery in the Medical Department of Niagara University, for an interesting account of a case in which he lately performed this operation with success on a patient in the Buffalo Hospital of the Sisters of Charity. Dr. Tremaine remarks that the peritonæum was evidently wounded during the operation, and yet the patient made an excellent recovery. From this complication, as well as the advanced age of the patient, seventy-three years, he adds, the case was fairly a crucial test of the operation of epicystotomy. He informs us that this is his third successful case of supra-pubic lithotomy.

One Hundred Years of Publishing.—We have been much interested in the perusal of a modest little volume in which the publishing firm now known as that of the Messrs. Lea Brothers & Co., of Philadelphia, give an outline of their creditable career during the century that the house has now been in existence. It is in connection with medical literature, to which for many years past its work has been almost if not quite restricted, that the firm is best known to the present generation, and it is nothing more than the simple truth to say that both its patrons and its writers entertain none but the kindliest impressions of the house.

The "Register of the Medical Society of the County of New York," revised to January, 1885, has now been delivered to the members. It contains an alphabetical list of the names of the active members, with their addresses and office hours. It has been prepared by a committee appointed for the purpose, consisting of Dr. Frederick A. Castle, Dr. David (printed "Daniel") Webster, and Dr. Henry G. Piffard. In some respects the pamphlet will doubtless prove a useful supplement to the "Medical Register" published under the auspices of the Medico-Historical Society.

THERAPEUTICAL NOTES.

Large Doses of Ipecac in the Treatment of Lobar Pneumonia.—Verardini ("Gazz. degli ospit."; "Ctrlbl. f. d. ges. Therap.") has made a series of experiments upon animals, as a result of which he infers that ipecac induces anæmia of the lungs, aud lessens the amount of blood in the heart, while at the same time the abdominal viscera become hyperæmic. He has tested these inferences by administering the drug to patients with pneumonia, and reports that it invariably reduced the temperature, the pulse, and the respiration, while the cough and dyspnœa were relieved. He recommends that from seventy-five grains to two drachms of the root be given in an infusion, but does not state how often the dose is to be repeated. He continues the treatment for several days, suspending it only when there is great prostration. It is stated that vomiting does not follow the administration of these large doses.

Carbolic-Acid Enemata in Dysentery.—Schtchegloff and Kampf ("Ctrlbl. f. d. ges. Therap."; "London Med. Record") report twenty cases of acute dysentery which were treated with injections of a solution of carbolic acid (one to five hundred), repeated two or three times each day. Only three of the patients were under treatment for more than four days, and five were cured in a single day. No general disturbances were noticed after the use of the acid. It did not act satisfactorily when administered by the mouth. Kampf is so enthusiastic as to regard carbolic acid as the specific in this disease.

Inula Helenium as an Antiseptic.—Korab ("Boletin farmacéutico"; "Lancet") calls attention to the antiseptic properties of this drug, which was once used as an anthelmintic. He states that a solution of one part in ten thousand arrests all putrefactive processes perfectly. Fifty centigrammes of this solution prevented decomposition when added to five litres of urine. The same writer compares the results obtained with this drug with those observed after the use of carbolic, boric, and salicylic acids, and decides that the former is far more powerful as a germicide. It has been employed extensively in Spain as a surgical dressing, and has stood the test in many cases. The writer adds that, when administered internally in doses of a third of a grain, it shows decided virtues as an astringent and anti-fermentative, especially in the diarrhœa of children. Its cheapness is greatly in its favor.

A Combination of Cocaine for Insufflation.—Schnitzler ("Ctrlbl. f. d. ges. Therap.") suggests the following:

Hydrochlorate of cocaine	4 to 8 grains;
Hydrochlorate of morphine	3 grains;
Subnitrate of bismuth, White sugar, each	75 "

Or the vapor of the following solution may be inhaled:

Hydrochlorate of cocaine	8 to 16 grains;
Chlorate of potassium	150 grains;
Cherry-laurel water	5 drachms;
Water	16 ounces.

Cocaine in the Vomiting of Pregnancy.—Weiss (*Ibid.*) suggests this mixture:

Hydrochlorate of cocaine	5 grains;
Alcohol, enough to dissolve the cocaine;	
Water	10 ounces.

A teaspoonful to be taken every half-hour.

The Application of Heat and Cold to the Hands as a Therapeutic Measure.—Vasilieff ("Ctrlbl. f. d. ges. Therap."; "London Med. Record") has found, as the result of a hundred experiments, that, if the hands are bathed for half an hour in water of a temperature of from 86° to 95° F., the temperature in the external auditory meatus is increased, the pulse and the respiration are accelerated, and the blood-pressure in the temporal arteries is considerably increased, with distension of the retinal veins. On substituting for the warm water a like quantity having a temperature of from 40° to 55°, the effects are exactly the contrary. The inference is that bathing the hands with cold water is an excellent way to combat cerebral hyperæmia. It is stated by Askotchensky that obstinate epistaxis may be stopped by this simple plan.

Dihydrobromate of Quinine.—This preparation, to which allusion has before been made, is highly praised by Maximowitsch ("St. Petersb. med. Wchnschr.") as an antipyretic and nerve sedative in cases of acute febrile disease attended with delirium. He gives the following formula for use in anæmia with resulting neurasthenia:

Bromide of iron, Hydrobromate of quinine, each	1 drachm;
Extract of rhubarb	q. s.

Divide into 120 pills. Two to be taken three times a day.

Terpinol.—Dujardin-Beaumetz ("Bull. gén. de thérap.") commends this derivative of terpene, which, he says, is rapidly eliminated by the pulmonary mucous membrane, and tends to dry up excessive secretion. The following combination has been suggested by Tanret:

Terpinol, Benzoate of sodium, each	15 grains:
Sugar	q. s.

Divide into ten pills, all of which may be taken in twenty-four hours in bronchial affections.

Piscidia Erythrina.—The same author (*Ibid.*) employs this drug as a sedative, making use of the following preparation:

Fluid extract of *Piscidia erythrina*	5 drachms;
Syrup of orange-peel	10 "

Dose, one to three teaspoonfuls daily.

Huchard prefers this mixture:

Tincture of piscidia, Tincture of *Viburnum prunifolium*,	equal parts.

Dose, one to two drachms daily.

Original Communications.

CONTRA-INDICATIONS TO LAPAROTOMY, AND THE DESIRABILITY OF RECOGNIZING THEM.

By HENRY C. COE, M. D., M. R. C. S., L. R. C. P.

The subject of the differential diagnosis of abdominal tumors, and the indications for their removal, is one which is not only thoroughly discussed in special works upon diseases of the ovaries, but which is assigned a prominent place in all general treatises on gynæcology.

An excuse for dwelling upon an apparently outworn theme may be urged in the boldness of modern peritoneal surgery, which regards no organ as beyond the range of its capabilities. There is danger lest operators, elated at results which were formerly deemed impossible, should rush to the opposite extreme and forget that there still remain conditions under which the privacy of the abdomen should be respected. The general surgeon is not so likely to err in this particular as the specialist, whose attention is often directed so exclusively to the pelvic organs that he overlooks the fact that they are not independent of the morbid influences which affect the rest of the body, and, moreover, that they are not the only seat of new growths. So accustomed does the gynæcologist become to relying upon his *tactus eruditus* in establishing a diagnosis that he often forgets (or thinks it unnecessary) to make that thorough physical examination through their routine practice of which the Germans seldom overlook an important pathological condition. These are trite statements, yet they can not be too strongly emphasized.

The writer feels that his limited experience does not warrant him in assuming an *ex cathedra* tone, but he hopes to support his assertions by reference to a series of personal observations, believing that such opinions, however crude, are more valuable than if they were based entirely upon the writings of others.

He has seen so many errors in diagnosis on the part of the most distinguished operators, so many hasty inferences from examinations made by them, that the importance of the subject has been brought home to him in a practical way, such as could not result from any acquaintance with books. How valuable to the younger men of the profession would be the frank acknowledgment of the mistakes of their elders—more valuable, indeed, than the most brilliant statistics of success! Series of cases in which the surgeon openly confessed what his previous diagnosis was, with regard to the character, relations, and attachments of abdominal tumors, and then stated to what extent his opinions were modified *after* operation—these would indeed be unique and valuable contributions to the medical world. But this is only the scientific view of the subject. There is, of course, another factor, which is all-important, the life of the patient—a life which hangs, perhaps, upon the hasty decision of a moment. If the careful physician declines to commit himself to a diagnosis until he has reviewed every doubtful point in a case, and has, after repeated interviews, satisfied himself that no important fact has been overlooked, it will appear to an impartial mind inexplicable that a surgeon should, after a few brief questions and a hasty *local* examination, not only make his diagnosis, but decide promptly upon the gravest of operations. The principle, if you see a tumor take it out, is one which is becoming too popular; it threatens to do away with accurate diagnosis altogether, and to reduce abdominal surgery to a sort of dashing empiricism.

In discussing within the limits of a brief paper a subject of this magnitude, it will, of course, be possible to treat it only in a general way. In seeking for the contra-indications to laparotomy, we shall be less likely to overlook them if we adopt a systematic plan of procedure, first obtaining the history of the patient, then making the general examination (if we may so express it), and finally the local examination.

I. History of the Patient.—If there is any class of cases in which the anamnesis should be accurate and exhaustive it is abdominal enlargements. So various are the causes which lead to these conditions that, on this text alone, an elaborate monograph might be written. Naturally, any man who seeks to trace out all the possible factors in the case must be well versed in pathology. Yet how seldom do these histories possess any value, especially in hospital practice, where they are taken by internes, who rarely have the experience and interest in the cases sufficient to lead them to elicit the most important facts! Not only is a quantity of irrelevant matter introduced, but the vital points are frequently not touched upon at all. Forgetting that the history should be even more thorough than in a medical case, the recorder approaches the subject with a preconceived idea that the tumor is of *pelvic* origin, and all of his questions are accordingly directed to the substantiation of his theory. No reference is made to the state of the heart, lungs, liver, kidneys—in short, the picture is only viewed from one standpoint, that of the gynæcologist. This misleading history is presented to the visiting surgeon, who, in his haste or confidence in his diagnostic skill, also allows his opinions to be wrongly biased. The ultimate consequences are frequently operations which result disastrously. Now, the remedy for this is very simple. Where the surgeon is prevented, by lack of time, from taking the necessary notes himself, let him provide a series of printed blanks, containing all of the questions which he himself would ask, and in their proper order.

The writer (when assistant, during his student days, to Dr. John Homans, of Boston) remembers having obtained such a history in the first case of ovarian tumor that he had ever seen. The blank used was that suggested by Sir Spencer Wells. It has always been Dr. Homans's custom to keep his records of abdominal tumors in this way, so that, although he has notes collected by scores of different individuals, they are sure to be accurate and exhaustive. The writer is positive that with some systematic plan of keeping hospital (and private) records an immense amount of valuable material would be preserved which is now lost for ever, and a great deal of hasty diagnosis would be avoided.

But what facts are we to bring out in the history? First, the ordinary ones, such as nobody overlooks—the menstrual and marital history, the time and mode of appearance of the tumor, and the local disturbances occasioned by it. Then, bearing in mind the numerous causes of abdominal enlargement, the questioner should examine carefully the evidence for and against each one. If no facts are elicited implicating any organ outside the pelvis, the possibility of some complication entirely independent of the tumor is to be kept in view. A patient with an ovarian growth may have cardiac or renal disease also, and it is just as well to discover that circumstance before as after the operation, when it may assume more importance than was imagined. The history itself will be enough to contra-indicate operation in not a few instances. The writer remembers a patient (unfortunately under his own care) who, through carelessness in this particular, lost her life after ovariotomy, no record having been made of the fact that she had a stricture of the colon, which prevented the introduction of the rectal tube, and rendered a secondary operation necessary. A similar oversight was also fraught with unfortunate consequences to a patient who had a rupture of the perinæum through the sphincter (of which she had said nothing), so that it was impossible for her to retain nutrient enemata.

These are small matters in themselves, but they are important in their bearing upon the result of such a serious procedure as ovariotomy, for which the patient must, like an athlete, be fully prepared. But there are other facts to be obtained in recording the history. The tumor itself, its origin, growth, influence upon neighboring organs—these are all interesting points.

The exact influence of ovarian tumors upon menstruation is a subject which has never been satisfactorily worked out, just from this very absence of accurate statistics. The rate of growth of pelvic tumors is another obscure point upon which more light ought to be thrown—in fact, there is ample opportunity to make the histories of cases alone papers of real scientific value.

There is not a standard work on midwifery which does not devote one or more chapters to a careful consideration of the various diseases which may result from or complicate pregnancy. Yet how little space is devoted by writers of monographs on pelvic tumors to the important changes which these growths may occasion in distant organs, or in the system at large! The only explanation is that they have never taken the pains to institute any systematic inquiries as to the possible existence of complications in every case which came under their charge. The grosser features of the case, such as dyspnœa, gastric disturbances, rectal and vesical irritation, the most careless recorder would note; but the less apparent affections of the heart, the kidneys, and even of the brain and spinal cord, are more often brought to light in the dead-house than in the wards, unless the patient happens to mention them accidentally. The writer was peculiarly impressed with his own carelessness in this respect by the instant death of a patient under his care three days before the time appointed for removal of a large fibro-cyst of the uterus. At the autopsy no cause could be found to account for the accident, save that the vessels which nourished the tumor were enormously dilated. The inference was that the heart, constantly overworked in its effort to maintain this double circulation, had suddenly given out. Now, a little more careful inquiry would have developed the presence of some circulatory disturbance, and led to a thorough physical examination (none had been made), as a result of which the patient would have been more carefully watched, and her operation, during which she must inevitably have died on the table, would never have been meditated.

This is mentioned simply by way of illustration. The habit of regarding a uterine or ovarian tumor as a *disease*, the sequence of which is to be traced just as carefully as if it were a cardiac or renal affection, is one which is worth cultivating by all who expect to devote themselves to peritoneal surgery. It seems almost elementary to add the caution that, in filling out the history of a patient with an abdominal enlargement, it is well to ascertain if the facts warrant us in suspecting that perhaps there is *no tumor at all.* Some grievous errors have arisen from the failure of the surgeon to dwell with sufficient care upon the *negative* side of the question. The fact that a woman had been tapped several times—a *clear, straw-colored fluid* being withdrawn on each occasion—that she had well-marked œdema of the feet, ankles, and labia of long standing, might lead an operator to look well to the state of the kidneys before proceeding to laparotomy; but the writer has seen the latter method of diagnosis tried *first*, a subsequent autopsy revealing the existence of advanced Bright's disease, with all its sequelæ—hydropericardium, cardiac hypertrophy, double hydrothorax, and ascites—as might have been predicted with some confidence from the history.

But enough has been said upon this head to indicate the direction which our questions ought to take in order that no detail, however insignificant it may appear to the "snap" diagnostician, may be allowed to escape a searching analysis.

II. The General Examination.—This may be characterized in a word—it should be *thorough.* None of the aids to diagnosis can be safely omitted. In addition to the ordinary routine physical examination—the urine, blood (in extreme anæmia, or where leucocythæmia is suspected), the fæces (in the case of pelvic abscesses or suppurating cysts rupturing into the intestine), the vaginal discharges—there are circumstances under which each of these should receive a careful scrutiny. The writer would defend himself against the criticism that he is insisting upon useless details by the simple statement that he has several times detected Bright's disease in patients with ovarian cysts previous to operation by a preliminary examination of the urine, and on two occasions a single glance at a drop of blood cleared up at once the diagnosis of a doubtful tumor by revealing the presence of leukæmia; as a result, the patients were spared a fatal operation. More than once the presence of pus in the stools has indicated the necessity of speedy interference in a case of suppurating cyst. So that it will appear, without further argument, that the use of the microscope in this connection is productive, not merely of curious scientific facts, but of exceedingly important clinical information. *Apropos* of the examination of the urine of patients about to undergo laparotomy, an interesting circumstance may be referred to. A few years ago, when engaged in collecting some statistics as to how far organic disease of the kidneys is a contra-indication to abdominal section, the writer wrote to several of the most prominent ovariotomists, asking for a brief reply to the following questions:

"1. Have you been accustomed to examine carefully the urine of your patients before and after operation?

"2. How often have you been led to suspect organic renal disease in patients who were about to undergo laparotomy?

"3. Do you consider such renal disease as a positive contra-indication to the measure?"

Most of the gentlemen to whom these queries were addressed either replied frankly that they had never troubled themselves about the condition of their patients' urine, or showed by their answers that they considered this a matter of small importance. Observations upon the customs of foreign surgeons have led the writer to believe that many of the cautions laid down in the books are entirely disregarded by them. But, aside from the practical results of the general examination, there are certain interesting scientific data which might be collected with a little care. The whole question concerning the effect of the mechanical pressure of the tumor upon the renal excretion (the variations in the amount of albumin and casts, excretion of urea, etc.), as compared with the condition after operation, has never been studied as in the pregnant woman. Although the writer's observations were confined to a small number of cases (about a hundred), they indicated some valuable pathological deductions which might be made from a sufficiently large number of examinations. As a consideration of the subject from any other than a practical point of view does not belong to the present paper, nothing further need be suggested in regard to the necessity of a thorough investigation of every organ before deciding whether an operation is justifiable or not. The systematic application of this principle will do away with much of the guess-work which now prevails regarding both diagnosis and prognosis.

THE LOCAL EXAMINATION.—By this should be understood not only the determination of the origin and character of the tumor (and under this is included the wide subject of differential diagnosis), but of its relations, adhesions, and *operability* (to coin a word). These are facts which are elicited only by the delicate fingers of the old and experienced gynæcologist; to the young and unpracticed they must remain, as yet, a sealed book.

Nothing is more common for a young man who has long witnessed the manipulations of a brilliant diagnostician whose processes of reasoning are so rapid that one can hardly follow their intermediate steps than to imagine that he can arrive at his own conclusions with equal rapidity and accuracy—an idea which is generally abandoned after a single experiment. The danger at the present time is that the younger men, hearing so much about "exploratory incision" and its harmlessness, will become careless, and not trouble themselves about a diagnosis which can readily be established by a few strokes of the knife. At the last meeting of the American Gynæcological Society the position was taken by one reader that "the risk of pure abdominal section for diagnosis, except in malignant disease, is less than might be expected." But a most radical application of this doctrine was made by an enthusiastic adherent of Mr. Tait (Dr. Dutton), who stated, in effect, at a society meeting that Tait often did not know what kind of a tumor he was going to find on opening the abdomen, and, moreover, that he did not care. This is not the spirit of his "Diseases of the Ovaries"; in this book he dwells most earnestly upon the desirability of making an exact diagnosis. "The diagnosis of the variety of tumor in each case is of importance in guiding us to its treatment; therefore it is not for the mere exercise of ingenuity that I recommend every practitioner dealing with a case of ovarian tumor to exhaust every point on which I have dwelt, together with many others to which I have not alluded, but which the individual peculiarities of each case and his own personal shrewdness may suggest." These are Mr. Tait's own words, and they certainly do not warrant that hasty resort to the exploratory incision which some men appear to believe.

The local conditions which render an abdominal tumor non-removable, or which at least do not justify the attempt, are now regarded as very few—too few for the good of the patient. Yet there still remain certain limitations, even with the present *ardor operandi.* If a tumor is found occupying the left hypochondrium, limited above by the upper border of splenic dullness, separated from the pelvis by an area of tympanitic resonance—in short, if it is an enlarged spleen—most men will be content to look upon laparotomy as out of the question, remembering that, out of some thirty or forty splenectomies now on record, twenty-two patients have died of shock. Some lingering hesitation will continue to exist in the minds of American operators about interfering with a pelvic abscess, or an hæmatocele, after the method of Tait; there are those still conservative enough to shrink from opening the abdomen for the purpose of draining an encysted dropsy. But all of these things have been done, and done successfully, so that the question may pertinently be asked, "Are there *any* local conditions which, if detected before operation, should deter the surgeon from proceeding to the extreme measure?" The writer believes that there are, and that a disregard of them lowers gynæcology to the level of "Vienna" surgery.

In making the local examination, the first thing, of course, is to determine the seat of the tumor.

Numberless rules are given for deciding between splenic, hepatic, renal, omental, gastric, and intra-parietal growths, and for diagnosticating the presence of malignant disease. The various abdominal growths are all distinctly differentiated (in books), but practically so many exceptions are met with at the bedside and in the dead-house that the rules seem to have been framed for some ideal case.

Then, too, there are mechanical obstacles in the way—thick or rigid abdominal walls, ascites, hyperæsthesia, and chronic peritonitis. Supposing the growth to be of pelvic origin, there are other sets of rules for distinguishing uterine from ovarian tumors, and the different varieties of cysts from each other. Here, again, a vast deal has been written which is of no practical use. It is impossible to carry in one's head differential diagnoses, all arranged in parallel columns. There should be a few plain rules, common sense, and, above all, *patience*. "It is this want of patience," writes a well-known specialist, "that is to blame for those melancholy instances of blunders, altogether unpardonable, where the abdomen has been opened in cases of normal pregnancy mistaken for ovarian tumors." We hear very little now about examinations under ether. The writer was once assistant to a gentleman who declined to give an opinion (much less to operate) upon any abdominal tumor before he had made a thorough examination with the muscles fully relaxed by an anæsthetic. The patient was no worse for it, and the diagnosis was a good deal better. So far as the writer knows, that surgeon has never yet been seriously mistaken about the condition which he expected to find on opening the abdomen. For a young man this is certainly the only safe course in case of doubt—that is, if he does not wish to take a leap in the dark. Consultations with older men are often misleading, because one is apt to be biased by their opinions, even against his own judgment; but a thorough, deliberate examination under ether, where all embarrassing influences are eliminated, will clear away more doubts than half a dozen hasty interviews without positive results.

The difficulty of judging about the precise origin and seat of the enlargement is sometimes so great as to be insurmountable. Ovarian cysts with long pedicles are often mistaken for renal cysts,* and *vice versa*. As there is a wide difference in the prognosis after the removal of such cysts by abdominal incision, it is desirable to establish their identity before the operation. In this doubt, a complete history and a *medical* examination (in contra-distinction to a superficial one, made from a purely *surgical* standpoint) will generally solve the problem.

What is more perplexing at times than to decide as to the presence of a limited ascites? But, when a tumor is present in addition to an extensive peritoneal effusion, the diagnosis is frequently impossible. It is commonly believed that there can be no marked ascites without a well-recognized cause. The writer is positive, from many observations, both clinical and pathological, that this is an erroneous idea. It is not unusual to find dropsy accompanying a small, non-malignant ovarian cyst, without adhesions, and where there is no possible chance for mechanical obstruction to the circulation.† This is important, for the laparotomist, after he has interrogated the heart, liver, and kidneys in vain, is prone to jump at once to the conclusion that malignant disease must be present. As a matter of fact, the writer has seen enormous malignant growths of the pelvic organs which caused no effusion whatever.

Dropsy, then, though a serious hindrance to accurate diagnosis, should be accompanied by other suspicious symptoms before it is regarded as a positive contra-indication to operation. It seems unnecessary to refer to pregnancy as a contra-indication, for every man is supposed to be on his guard against that blunder. But the fact is, any one is liable to be caught napping, and to forget, while searching eagerly for a pathological enlargement, that it may be an entirely physiological one. With a defective history, a patient above the age when pregnancy is common, and various misleading symptoms, it is not difficult for an inexperienced examiner to err. Add to this mechanical obstacles to palpation and the presence of previous abnormities (displacements, fibroids, cellulitis, etc.), and the wonder is not that so many mistakes occur, but that there are so few cases on record in which the surgeon has been so unfortunate as to find, on opening the abdomen, a gravid uterus instead of the supposed tumor.

The writer has seen large pelvic abscesses which were recognized as such only by their breaking into the rectum or vagina. These might easily have been operated upon as abdominal tumors; in fact, the treatment of these by laparotomy is in favor with some gynæcologists. Yet by the more conservative they would be considered as positive contra-indications, and the failure to detect them before operation as unfortunate.

The reference to pelvic abscesses suggests naturally those pelvic tumors with which the gynæcologist has particularly to deal, and the differential diagnosis between which is exhaustively discussed in books, but is only learned by experience.

It was formerly the custom (the expression "formerly" is used because it is now going out of fashion) to attach so much importance to the examination of fluid obtained by puncture of an abdominal cyst that many surgeons would refuse to operate if the microscopist's opinion was adverse. It is not the writer's intention to branch off into a discussion of this much-disputed subject. He has always made a point of examining every specimen of fluid which came in his way, whether obtained before or during an operation, and, as a result of a great number of examinations, he is inclined to take a middle ground between Dr. Garrigues and Dr. Drysdale.* That the presence of the so-called "ovarian cell" is enough in itself to justify a positive diagnosis and to affect an operator's opinion is questionable. The writer has found almost identical forms in a cyst of the pancreas,† in a cyst of the peritonæum,‡ and quite recently in an enlarged "hydatid of Morgagni," # which certainly had not the remotest connection with the ovary. Neither does the writer believe in the diagnosis of fibro-cystic tumors from a simple inspection of the *fluid*. The coagulation theory is certainly a misleading one, since these specimens are seldom free from foreign blood such as would readily explain the rapid clotting. [On this point reference is made to former papers by the writer in the "Am. Jour. of Obstetrics" for October and November, 1882, and July, 1883.]

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* I have twice seen a hydronephrotic kidney operated upon as an ovarian cyst, the true condition not being recognized until the specimen was examined outside the body.

† I have frequently observed enormous ovarian and uterine tumors without a trace of dropsy, though the mechanical obstruction was plainly great.

* "Trans. of the Am. Gyn. Soc.," 1881.

† Case of Dr. Bozeman's.

‡ Case of Dr. Thomas's.

Case of Dr. Hunter's.

The diagnoses of parovarian, renal, and hydatid cysts are perhaps the only ones which can be made with certainty by an exploratory puncture. In the writer's opinion the dangers of this measure have been exaggerated. How an exploratory incision can be preferred to it is inexplicable.

The diagnosis of malignant disease within the abdominal cavity from the examination of ascitic fluid is one which undoubtedly has a future. The writer's observations have been too few to admit of any dogmatic statements, but he is positive that the time will come when a proposed laparotomy will be abandoned when it is proved that the tumor is accompanied by an accumulation of ascitic fluid containing the peculiar cells described by Foulis and Thornton.* Perhaps the briefest statement of the whole question resolves itself into this: According to modern ideas, if there are no other contra-indications to operation save that afforded by an examination of the aspirated fluid, that surgeon will be wanting in decision who does not give his patient the benefit of the doubt.

But, besides the determination of the seat and character of the tumor, the local examination may disclose such anomalies in its relations or attachments as will lead to an abandonment of the operation. When the surgeon is quite sure that he has to do with a small cyst, which is firmly adherent to the uterus, dips down into the pelvis, and is absolutely immovable, he will hesitate for some time before attempting its extirpation. The possibility of error, the chances offered by draining the cyst—these may lead a bold operator to go ahead in spite of the bad outlook, but to the inexperienced this condition should certainly be a contra-indication.

The question of the detection of adhesions is one which has received due consideration in books, but nothing is more disappointing in practice. However, less stress is laid upon the necessity of obtaining information in this direction than formerly; this is an element which now seldom deters the surgeon from carrying out his plans.

A recent German writer † states positively that it is impossible to establish the presence of the most important adhesions (those between the tumor and the abdominal viscera) by simple palpation, and hence that there is no other way of discovering them except by opening the abdomen. This brings us to the question of exploratory incision—a proceeding which is growing quite popular with us. The writer feels incompetent to express an opinion as to the advisability of the measure in every doubtful case, and would simply say that he has seen too many fatal cases to regard this as such a simple affair as it has been represented by a recent writer.

The important point in our discussion is, What conditions, discovered by such an incision, render it incumbent upon the conscientious operator to desist from further measures? Here opinions are (like the conditions themselves) so various that the writer can not give his own without seeming to criticise men for whose judgment he entertains a profound respect. We have all seen cases the desperate nature of which was apparent the moment that the abdominal cavity was exposed; a consultation was held, the operation was proceeded with, and—the patient died on the table. This is, unfortunately, a common story, tragic enough when it follows a conscientious desire to "give the patient a chance," but dismal in the extreme when it results from mere personal pique at being obliged to abandon an operation. It is only a few years since the operator who meddled with a uterine tumor was looked upon as most reprehensible. Here, too, opinions have changed greatly. In this connection Tait's advice may be quoted as being very sound; it is worthy of the earnest consideration of the inexperienced. "How to direct an inquirer upon this difficult path," he frankly admits, "I do not know, unless it be to advise him that, before he engages much in abdominal surgery, he had better see a good deal of it in the practice of some one else. . . . When and how to complete the removal of a tumor in which there are grave difficulties can be learned only by experience, and, as I have elsewhere said, in my own earlier practice I have too often left an operation unfinished which riper experience would have enabled me to complete.

"Let me here repeat once again my advice that the surgeon should most carefully consider what he is about to do before he turns an exploratory incision into an incomplete operation." *

Since the writer has mentioned certain general as well as local conditions under which he regards laparotomy as a questionable proceeding, it may not be amiss to state that there are exceptional circumstances under which many of these objections may be waived. Under the head of contra-indications Wells advises against operating upon patients "suffering from cancer, advanced tuberculosis or scrofula, syphilis, diseases of the heart, or in cases where this organ has been displaced by the tumor and at the same time has been fixed in its abnormal site by adhesions, which would retain it in its position even after the removal of the ovary; diseases of the brain and of the nervous centers, of the liver, spleen, and kidneys; ulcers of the stomach and diseases of the alimentary canal, which permanently impair general nutrition; ascites in consequence of liver complaint, of disease of the heart, or degeneration of the kidneys. . . . But in few instances *will the judgment of the surgeon be so severely tested as in estimating the value and importance* of many of the above-mentioned contra-indications, whether any one is by itself so serious as to preclude surgical interference, or is merely *a consequence of the local disease.*" †

The last clause of this long quotation contains the gist of the matter, although to the words "is merely a consequence of the local disease" might have been added "or is *aggravated* by it." This is an important factor, as the writer has often noticed in hospital service. In one case a patient with an ovarian tumor was, to all intents, the subject of chronic Bright's disease of long standing. The urine was loaded with albumin and casts, and the prospect was not a cheerful one. But after operation (during which she barely escaped dying on the table) she began to improve, and left the hospital with a slight trace of albumin in the urine and her general health vastly improved. Again, a patient with mitral insufficiency passed safely through laparotomy (having most alarming symptoms while under ether), and was discharged with a marked improvement in her cardiac trouble. The writer has satisfied himself, by frequent autopsies, that patients with ovarian tumors are, as a rule, the subjects of a chronic gastritis which is certain to be relieved by removal of the growth. Profound anæmia is not always a contra-indication, neither is advanced age regarded as so serious an objection as it was formerly.

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* For description and illustration of this cell, *vide* Hart and Barbour.

† Martin, "Pathologie u. Therapie der Frauenkrankheiten," 1885.

* Tait, "Diseases of the Ovaries," p. 318.

† Spencer Wells, "Diseases of the Ovaries."

Is not the surgeon sometimes justified in interfering with malignant disease of the abdomen? There are, doubtless, some cases in which it is right, especially where there is doubt as to the diagnosis. "The operation ought never to be performed," says an eminent ovariotomist, "if well-founded suspicion is entertained of the tumor being cancerous." This was written several years ago, and before the Germans had made such a brilliant record in extirpation of the cancerous uterus.

In a word, contra-indications may cease to be such under certain circumstances. They are variable. What would be justifiable for a skilled operator would be criminal for a novice, and, if a man has several times overcome formidable obstacles, he will not be inclined to regard them as sufficient to deter him from similar operations in the future. Books give their cautions, but here again experience is the only teacher.

In concluding a paper of the fragmentary nature of which he is fully conscious, the writer feels that he may have slighted important points and laid too much stress upon minor details. It has been his endeavor throughout to bring into prominence a great need which is felt by the younger gynæcologists. Seeing and reading daily of brilliant operations, taught constantly that abdominal section is now a mere bagatelle, a rapid and convenient method of settling a disputed point, there is danger lest the next generation of specialists will lose that subtle diagnostic skill which marked the early days of peritoneal surgery, and learn to depend entirely on the exploratory incision. This same exploratory incision may be a dangerous stumbling-block to an ambitious young man, who dislikes to have it said that he began an operation but was obliged to abandon it.

We are hampered by multitudes of rules; if over-cautious, we increase difficulties where few exist; if rash, we find too much encouragement in the spirit of the age to draw back simply out of consideration for the patient. Not having experience ourselves, we observe errors, but do not know how to avoid them. In this dilemma the only resource is in the experience of older men—not alone their brilliant hits, but their mistakes, are interesting to the beginner. A book on errors in the diagnosis of abdominal tumors would be the most valuable contribution that a mature surgeon could make to his younger brethren; such a record might not be so flattering to him as a series of statistics proving his diagnostic infallibility, but to those who are earnestly struggling after light it would be a priceless memorial, a means of saving them from purchasing their wisdom at a fearful cost.

A CASE OF
LARGE UTERINE FIBRO-CYST,
INVOLVING THE ENTIRE ORGAN;
REMOVAL OF THE UTERUS AND OVARIES.

By JOHN SCOTT, M. D., San Francisco,
SURGEON-IN-CHIEF OF THE CALIFORNIA WOMAN'S HOSPITAL.

The following history of the case was prepared by Dr. J. H. Todd, house surgeon:

Mrs. A. C. B., aged thirty, Irish, was admitted into the California Woman's Hospital November 8, 1884. She had been married one year, and had never been pregnant. She first menstruated at the age of twelve years. During her first menstrual period she walked a distance of a mile and a half through snow, on an exceedingly cold day, to church. She was almost frozen, and had to be taken home and cared for. The menstrual discharge was suppressed and did not reappear for about three years. Shortly after the suppression she began to have trouble with her heart, followed by general dropsy, which was not entirely relieved for several years. Since the menses were re-established she has been perfectly regular. She has never had pain during the catamenial periods, and the quantity of the menstrual discharge has been normal until within the last year, when it has been somewhat profuse. Five years ago, while nursing a sick friend and lifting a heavy weight, she felt something suddenly give way inside, accompanied with sharp pain. Immediately afterward she passed bloody urine, which continued for two or three days. Then she began to have excessive and burning pain in the back, which was almost constant, especially while she was standing or walking. About three months later she had retention of urine, which had to be relieved with a catheter, and for the first time she submitted to a digital examination, when it was found that the uterus was retroverted. A pessary was adjusted and the pain relieved, but not cured. Two years ago she began to be affected with dizziness and vomiting for a week prior to each menstrual period, and about the same time she first noticed an enlargement of the lower part of the abdomen, on the left side of the median line, which has steadily increased in size until now. For the last six months the sick spells which precede the catamenia have occurred every two weeks, and the growth has increased more rapidly. The measurement around the body at the umbilicus is thirty-five inches; four inches below the umbilicus, thirty-six inches; from the umbilicus to the left anterior superior spinous process, seven inches and a half, and the same to the right; from the umbilicus to the pubes, eight inches; from the umbilicus to the ensiform cartilage, six inches.

She is of medium stature, thin, and anæmic; her locomotion is much impaired, but her nervous system is in good order. She has some headache. She sleeps well. Her pulse and temperature are normal. Her bowels are constipated. Her appetite is fair. The heart and lungs are normal.

During the time that her menses were suppressed she had diabetes, for which she was treated about three years, after which she was entirely free from trouble until about two years ago, when, upon standing or walking, she began to have difficulty in retaining her water. This difficulty has increased with the size of the growth, and is much worse while she is in the recumbent posture. Examination shows the urine to be of normal specific gravity, and with no trace of albumin or sugar.

On her admission she was given a slight mercurial purge, followed by oil, and at night a vaseline bath.

November 9th.—Dr. Scott examined her and found the tumor to be central, perfectly movable, oval in shape, tense, without fluctuation, and giving neither the feeling of an ovarian cyst nor that of a fibroid. A distinct *bruit*, resembling the uterine souffle, together with a marked aortic impulse, was present. The diagnosis, while the belief was entertained that the tumor was fibro-cystic in character, was withheld.

10th.—A consultation was held at 10 A. M., at which Dr. Scott, Dr. De Vecchi, Dr. Burgess, Dr. Richter, Dr. Blake, Dr. Robinson, and Dr. Todd were present. Pregnancy was excluded, and an abdominal tumor, undetermined in character but demanding removal, was diagnosticated. The operation was appointed for the 13th.

13th.—At 10 A. M. the patient was given a hypodermic injection of a quarter of a grain of sulphate of morphine. At 10.15 she was brought into the operating-room and etherized by Dr. Todd. Dr. Scott, in the presence of Dr. De Vecchi, Dr. Richter, Dr. Burgess, and Dr. Blake, made an exploratory incision in the linea alba, midway between the umbilicus and the pubes. When the peritonæum was opened, the tumor presented, of a dark-purple color, perfectly globular in shape, smooth, and without adhesions. The patient was turned on her side and a trocar thrust into the tumor, which was found to be semi-solid. The incision was then extended to two inches above the umbilicus, and as near the pubes as safety to the bladder would permit, and with considerable effort the tumor was made to pass through the wound. Examination then showed the tumor to be a fibro-cystic degeneration of the uterus. A rubber tube was then thrown around the cervix, drawn tight, and tied; as a further precaution, a Spencer Wells's clamp-forceps was made to grasp and compress the cervix above the tubing, and immediately above the forceps it was severed with a scalpel. The clamp was then removed, the wire of Kœberlé's serre-nœud placed around the stump, and the screw tightened until a deep impression was made, when a strong four-strand, double-silk ligature was passed through the stump by means of a Peaslee's needle, and the two sides were securely tied. The écraseur was again placed higher up on the stump, and a like ligature thrown around the entire stump, in the impression made by the wire, and tied. A sound passed into the bladder showed that viscus to be free and intact. The stump was then dressed by trimming and sewing across the pedicle from side to side with the cobbler's stitch, then drawing the peritonæum across the stump and stitching it with fine silk interrupted sutures. The uterine arteries were then ligated, and the elastic cord was removed from the stump, when it was found that hæmorrhage was entirely controlled. The abdominal incision was closed with silver-wire sutures, a Tait's glass drainage-tube having been placed in the lower angle of the wound. A simple dressing of antiseptic gauze and cotton was placed over the wound, and retained by means of one or two adhesive straps. Every antiseptic precaution was observed, with the exception of operating under the spray. All the ligatures and sutures were rendered aseptic by being soaked in a solution of bichloride of mercury (1 to 1,000) for twelve hours, and afterward kept in alcohol. The time consumed in the operation was ninety minutes. Upon examination of the tumor, it was found to consist of a complete fibro-cystic degeneration of the uterus.

The patient was removed to her room and artificial heat applied. Her reaction was gradual, and with but little vomiting.

14th.—The patient passed a restless night, sleeping but little. Her temperature has gradually risen to 102° F.; her pulse to 104. At 2 P. M. she complained of pain in the back and abdomen, and was excessively restless. Upon examination of the drainage-tube, it was observed that hæmorrhage was taking place into the abdominal cavity. Dr. Scott was at once notified, and a full opiate was given. Dr. Scott came prepared to reopen the abdomen and secure the bleeding vessels, but, upon consultation with Dr. Richter, decided not to do so, hoping that the hæmorrhage would cease. At 3.30 P. M., the bleeding continuing, Dr. Todd placed the coil upon the abdomen, which was very grateful to the patient, but without apparent effect upon the hæmorrhage. At 9 P. M. Dr. Scott was again called, and, upon his arrival, the patient was in a state of profound collapse, gasping for breath, pallid, cold, and with a pulse scarcely perceptible at the wrist. Dr. Scott immediately removed the tube and injected into the cavity four drachms of equal parts of tincture of iodine and alcohol, which arrested the hæmorrhage immediately, and in a short time the patient became tranquil. A hypodermic injection of a third of a grain of sulphate of morphine was given at 10 P. M. Examination showed renewed bleeding, and two drachms of tincture of iodine and alcohol were again injected, by which the hæmorrhage was promptly and permanently arrested. Absolutely no pain nor tenderness resulted from the treatment.

From this time to the 20th the patient progressed favorably, an immense quantity of broken-down blood-clot being discharged by the abdominal wound. The dressing was kept as clean as possible, and the cavity washed out every four or six hours with a solution of bichloride of mercury, 1 to 1,000 at first, and afterward 1 to 2,000.

On December 1st the patient began to complain of pain in the region of the bladder, accompanied with frequent micturition. The bladder was washed out with warm water and borax, which seemed to give relief. On November 27th two small ligatures came away by the wound, and on the 28th one small ligature by the vagina.

December 6th the bladder irritation had become so excessive that the patient passed water every four or five minutes with much pain and distress. Upon examination, Dr. Todd discovered one of the large ligatures just within the os, and with slight traction it was removed, when the main ligature of the stump came into view. Considerable force failed to remove it, and it was allowed to remain until the 8th, when the patient was placed upon the table by Dr. Scott, and a considerable portion of the stump, which had sloughed off (with the ligatures *in situ*), was removed through the cervix. The pain and irritation of the bladder were immediately relieved, and reappeared only once afterward. From this time the patient improved rapidly, leaving her bed on the 12th, and the hospital on the 29th, in perfect health.

There are some points in this case worthy of notice. The occurrence of hæmorrhage on the second day was most unfortunate, and, but for its speedy arrest by the injection of iodine, would have proved fatal. In resorting to its use, I remembered a remarkable case in which I had used it with decided effect some years ago. The patient was the wife of a medical man from whom I removed, by patient enucleation, a cyst of the left broad ligament, complicated with pelvic abscess opening into the vagina of two years' standing. The operation was a most difficult one, lasting upward of two hours, and involving serious injury to the broad ligament, which was torn in its removal. There was no proper pedicle, but there were left instead ragged portions of the cyst-wall, which were ligatured and tied, leaving a very ugly and unpromising cavity, into which a glass drainage-tube was inserted, after taking up all the vessels we could find; and the patient was taken from the table in such profound collapse that she appeared moribund. Singularly enough, she rallied well. A large quantity of serum came away through the tube, but had diminished so much by the third day that I was about to remove it, when, suddenly and without warning, a hæmorrhage set in, and at least a pint of blood was lost before I could reach her. Ice to the abdomen and spine seemed to succeed in arresting the bleeding, when I was sent for twelve hours afterward, but I found the patient apparently dying from loss of blood so excessive that I believed it impossible for her to survive it. I had removed the tube on the appearance of the first bleeding, and I now passed a large gum-elastic catheter down deep into the pelvis and injected two drachms of tincture of iodine, with the same quantity of alcohol, and repeated the injection before removing the tube. Coagulation instantly took place, and, though I repeated the injection in twelve hours, with one of iodine to three of alcohol, and then one to four, there never was a recurrence of the bleeding; and after the lapse of seven weeks the patient went home well. I had never read or heard of the injection of iodine into the abdominal cavity for controlling secondary hæmorrhage before; but I subsequently learned that Dr. G. T. Hammond had saved a patient's life in the New York Woman's Hospital, after an uncompleted operation by Dr. Emmet, and with the result of effecting the removal of the part of the tumor left unremoved. I think it will be conceded that the intra-peritoneal method of treating the cervical stump in abdominal hysterectomy is vastly preferable to its inclusion in the abdominal wound, if we can guard effectually against secondary hæmorrhage. In fibroid degeneration of the uterus necessitating removal of the organ, the cervix is usually hypertrophied and its tissue very dense and resisting, and difficult of compression by ligature, no matter how much force is used in tying it. After a few hours this state is materially changed by relaxation of the tissues, the ligatures slacken, and, reaction having taken place, hæmorrhage is too constantly the result.

In the present case the cervix was greatly hypertrophied, and, in my anxiety to guard against after-bleeding, I used a four-strand silk ligature, which did not sink into the tissue as I expected; and as a precaution I transfixed and tied again higher up, but the knot did not "pull home" as I desired, and I expressed myself at the time as apprehensive of what actually took place. I subsequently found that two strands of the same silk would have been abundantly strong, and would have done the work much more effectually. Had I tied the uterine arteries in the ligamenta lata instead of the cervix, it would have been better still. It may seem strange that I inserted a glass drainage-tube where there was no bleeding and no adhesions, but I did it designedly, for I believe, from some reason I can not explain, that there is a tendency to effusion of serum in the abdominal cavity after removal of the uterus, independent of bleeding; and I have seen fatal results in two cases apparently attributable to it. I was justified by what took place in this instance, for there was enough serum (dark, but not bloody) secreted during the first twelve hours to have caused septicæmia. I think the danger from the use of the drainage-tube in abdominal operations *during the first twelve hours* much less than is apprehended; the danger really consists in leaving it in one moment longer than is necessary, and the presence or absence of serum will readily determine this. The behavior of the silk ligatures was notable, for it is evident the very severe cystic irritation was caused by their presence; and, had I not been able to remove the thick ones so soon through the cervix, the patient's recovery would have been greatly prolonged and an abscess in Douglas's pouch might have formed and compelled me to open it and remove the ligatures. I rightly apprehended the source of the cystic trouble, and, by dilating the short canal of the cervix, I gave exit to pus and induced the ligature to follow in the track. The subsequent histories of abdominal operations are daily bringing to our notice the fact that stout silk ligatures are not absorbed, and not encapsulated in many instances; that they remain as foreign bodies till they find their exit through unexpected places, or produce abscesses ending in sinuses; and it now becomes a serious question with the profession how to find a remedy for a state of things the reverse of desirable. The use of the clamp and cautery, as practiced by Baker Brown and extensively employed by Keith, would obviate the difficulty in ovariotomies; and if the Baker Brown clamp is so adjusted as to make equal pressure throughout, and the searing of the stump done slowly and carefully, there is seldom any risk of secondary hæmorrhage; and if, before the stump is dropped back, it is carefully inspected, and any small vessel found oozing is ligatured, the danger from bleeding is absolutely *nil*. One word and I have done. I learn that Kœberlé, while adopting the intra-peritoneal method in abdominal hysterectomy, takes the precaution of bringing the ends of his ligatures through Douglas's *cul-de-sac* into the vagina, thereby insuring drainage, and enabling him to withdraw them after the lapse of a sufficient time.

DRY WOUND DRESSING;

WITH A NOTE ON

PAPER-WOOL, A NEW DRESSING MATERIAL.

By GEORGE R. FOWLER, M. D., Brooklyn,

SURGEON TO ST. MARY'S GENERAL HOSPITAL.

About a year ago, in an article* entitled "Hospital Antiseptic Surgery," I took occasion to describe some of the methods in vogue at St. Mary's General Hospital, and laid special stress upon the use of mercuric bichloride solution for purposes of irrigation, the latter taking the place, almost entirely in my service, of the carbolic spray. Since that time I have continued to use it to the exclusion of everything else for that purpose, and now desire to reiterate, after another year's use, my favorable opinion regarding it. Furthermore, from what I can gather from the reports of other surgeons, the mercuric bichloride has rapidly gained in favor, this being in great measure due to its powerful germicide action and exceeding cheapness. I have therefore come to consider that all the requirements of thorough antiseptic irrigation are being fulfilled by the use of this salt. In this connection I would state that I am not unaware of the fact that in a series of experiments conducted by M. Miguel, upon the comparative value of the different germicides and antiseptics in use, mercuric bichloride was found to be inferior to mercuric iodide, in that it was demonstrated that the former would only prevent putrefaction in beef solution in the proportion of 1 to 14,000, while the latter proved efficient in a solution of 1 to 40,000. It would therefore seem as if the iodine salt should be substituted for the bichloride. To this, however, there may be offered several objections, chief among which may be mentioned, first, that the mercuric iodide is almost entirely insoluble in water; second, even though its solution be aided by alcohol, in such dilute solutions it is easily decomposed; third, in order to render it both soluble and stable, it is necessary to add to it another and a soluble iodide, for instance, the iodide of potassium. In this latter case, it is not a solution of mercuric iodide, but of iodohydrargyrate of potassium that is formed, which, even though it possess all the antiseptic qualities of the single salt, is open to the objection (being a compound salt) of requiring a compound term, and a very unusual one at that, to express its character. It is therefore probable that the mercuric bichloride will continue to hold its own, for some time to come, for antiseptic irrigation in operative surgery.

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* "New York Medical Journal," May 17, 1884.

In the matter of wound dressings, however, there is, apparently, far from being a unanimity of opinion regarding the proper methods to be employed, or even as to the governing principles to be observed. While almost all of the leading surgeons engaged in active practice are more or less impressed with the necessity of observing some sort of antiseptic precautions in their work, yet of these many differ as to the importance of certain points, some insisting that the spray is all-important, and yet allowing, for instance, the cuff of a dirty coat-sleeve to come in contact with the wound made for the purpose of wiring a fractured patella; while others rely upon irrigation alone, and then, after the latter has been most thoroughly done, dry off the wound and surrounding parts with a towel which is not æsthetically, much less surgically, clean. In the matter of dressings, the use of the typical Lister dressing, with its pent-up secretions beneath a layer of impermeable Macintosh, and the sodden condition of the tissues, is almost diametrically opposed to the cushions of wood-wool, moss, peat, wood-flour, and sawdust, through which the atmospheric air is allowed to pass freely, and in which the secretions from the wound are designed to dry as rapidly as possible.

In directing attention to this latter method, which a recent writer* has proposed to call the "exsiccation dressing," I would briefly call the attention of the reader to some of the principles underlying this, the attempt to imitate nature's well-known *modus operandi* of healing by scabbing, or "healing under the scab," as it is more commonly called. It is now very generally admitted that the so-called open treatment of wounds is not necessarily incompatible with antiseptic treatment, although, to be sure, it leaves many avenues for the entrance of septic material and matters of an irritating nature floating in the air, to gain a foothold in the wound and perhaps work harm to the patient. But the mere fact that concentrated organic fluids form unfavorable soil for the nourishment and development of low organisms sufficiently explains the comparative measure of success attained by the late Professor James R. Wood in the wards of Bellevue Hospital some years ago, and Mr. Callender, of St. Bartholomew's Hospital, in cases where the wound surfaces were allowed to desiccate as rapidly as possible. In the case of the latter surgeon's open treatment, however, a solution of carbolic acid in glycerin was applied occasionally, thus adding, apparently, a real antiseptic agent to the treatment. It is doubtful, however, whether the influence of the glycerin alone might not have assured as full a measure of success as the carbolic acid in the proportions employed. Again may be instanced, as mentioned by Professor Paul Bruns,* the difference in the behavior of dry gangrene as compared to the moist variety. In the case of the former, the mummified parts may remain unchanged indefinitely. That perfect desiccation is the best safeguard against putrefaction is quite well known, and advantage is taken of it on our Western prairies by hunters, who preserve buffalo-meat by the process known as "jerking"—i. e., drying rapidly in the open air.

In the first efforts made to imitate nature's process of healing under the scab, attempts were made to produce the same effect by hermetically sealing wounds by collodion and cotton, as well as by other adhesive substances. The method, however, was found to be far from successful, inasmuch as no provision was made for the draining away of the wound secretions, these latter, in their turn, being in a great measure due to the previous entrance into the wound of irritating substances from the surrounding atmosphere. As a result of this failure to drain away the wound secretions, inflammation took place, and it became necessary to remove the artificial scab to give exit to the pent-up pus. Even in Lister's first attempts to form a scab by means of carbolic acid, retention of the secretions could not be entirely avoided.

In the employment of the exsiccation method it is desirable to make use of a dressing through which the atmospheric air can readily pass, and which, at the same time, shall possess absorbent properties sufficient to permit of the removal of the wound secretions from the surface. It should likewise be capable of being impregnated with corrosive-sublimate solution, the latter becoming, in the method of dressing under consideration, the preferable antiseptic agent. It will be at once seen that volatile substances, such as carbolic acid, soon become practically useless unless confined, to some extent, to the wound and its surroundings by an impermeable covering. This latter would defeat the object in view, namely, rapid desiccation of the discharges. The moss dressing of Hagedorn, the peat dressing of Neuber, the wood-wool of Bruns, and wood-flour, as well as finely sifted sawdust—all of these serve the purpose more or less perfectly in fulfilling the requirements mentioned. With the exception of the moss dressing, to which I have tried in vain to adapt some of our native mosses, these substances are not so pervious to air as to admit of rapid drying, although absorbent to a high degree and capable of being sterilized by mercuric-bichloride solution, and rendered antiseptic by the addition of naphthalin, iodoform, etc. In making some experiments with the view of discovering a substitute for the beautiful cushions of soft moss which I had seen used in the surgical clinics in Germany, I was led to make trial of the manilla tissue-paper known as toilet-paper, or water-closet paper. I had a quantity of this cut into strips of about one sixteenth of an inch in width. This was done for me by a stationer with the common trimming or cutting machines used in that trade. A trial of this substance convinced me that it was incomparably the best material for facilitating the rapid drying of the wound secretions, although not so highly absorbent as some of the others. It was found, however, notwithstanding the fact that wood-flour, wood-wool, etc., were superior in point of absorbent properties, yet the permeability of the paper, when lightly applied, and the rapid drying of the secretions therein, gave it advantages over the other substances. Its absorbent powers are sufficiently good for all practical purposes; it takes up blood and serum readily, and these dry rapidly in its loose meshes.

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* "Annals of Surgery," vol. i, No. 1, p. 72.

* "Archiv für klinische Chirurgie," xxxi, 3.

The method employed in preparing it for use is to soak it in a 1-to-1,000 solution of sublimate. In making this solution, chloride of sodium is added in the proportion of five grains for each grain of the sublimate employed, in order to prevent the decomposition of the latter and the formation of calomel in its stead. After becoming thoroughly saturated in this solution, it is passed through the rubber rollers of a common clothes-wringer and shaken out loosely to dry.

Although not yet prepared to discard the use of some antiseptic in the dressings, yet I am constrained to believe that this latter is of far less importance than a strict attention to every detail of aseptic treatment in the case of the wound itself. Far less danger is to be apprehended from a dressing which is not necessarily antiseptic than from a wound left with an indifferently cleansed and sterilized surface, even though it be covered by layer upon layer of the most elaborately prepared antiseptic materials, and in the most approved Listerian fashion. Therefore, when assured to a reasonable certainty of the aseptic condition of the wound and its surroundings, at the time of closing it and applying the first dressings, I should have no hesitancy in trusting to the paper-wool alone; and this particularly if the atmospheric and other conditions were such as to insure rapid drying of whatever wound secretions passed into the dressings.

In using it, after strict attention to every detail calculated to insure the most perfect asepsis, both in the wound and its surroundings, it is my habit to first place a piece of gauze wrung out of a 1-to-1,000 sublimate solution over the parts, and over this a loose mass of the paper, in size proportionate to the extent of the wound, going well beyond the limits of the latter. This is held in position by a gauze bandage. Or, cushions may be prepared beforehand by making bags of the material known as mosquito-bar or netting, and filling them with the paper-wool. Although I have always, in using the sublimate, taken pains to leave the parts wet with the solution, and even to moisten the first piece coming in contact with the skin by means of the same, I have seen none of the troublesome eczema which, according to report, other surgeons have observed. This is probably due to the rapid drying of the wound district accomplished by this manner of dressing.

Mr. C. am Ende, the well-known purveyor of wound-dressing materials, of Hoboken, N. J., has made arrangements to supply this paper-wool in any quantity, sublimated or plain.

HIGH TEMPERATURE PRECEDING ABORTION.

By M. HOWARD FUSSELL, M. D.,
PHILADELPHIA.

Case I.—On the morning of November 23, 1884, the writer was called to see Mrs. P., and obtained the following history:

Age twenty-one, unmarried; toward evening of the three preceding days had experienced a chill, followed by fever and sweat; in the mornings, save for some languor, perfectly well; no nausea; no abdominal tenderness nor diarrhœa. When seen, had just come out of a chill, and had a temperature of 101·4° F.

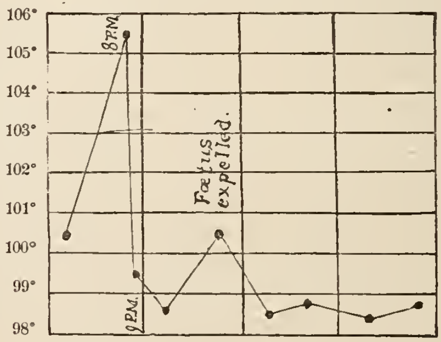
From the history and examination, I supposed the patient was suffering from intermittent fever, gave such an opinion, and ordered quinine, expecting to see her again the next day.

At 5 P. M. of the same day I was sent for in haste, with word that my patient was very sick. At this visit I obtained the following history, the woman's mother, in my absence, having discovered it:

Had been *married* two months; suspecting herself pregnant, had gone to Philadelphia, on November 8th, and permitted an abortionist to attempt a criminal operation upon her. She made five subsequent visits, at intervals of three days, each time the abortionist attempting to bring away the fœtus, and, failing, administering drugs.

This day had been set for another visit, but she was unable to get out because of her condition. On examination, found the woman very nervous, in a chill, with a temperature of 105·4°; rapid, hard pulse; no pain, no abdominal tenderness; mouth of womb soft but not dilated; uterus slightly anteflexed; no discharge of any sort, giving the impression of an early normal pregnancy. Prescribed large doses of bromide of potassium and quinine.

Fearing septicæmia from the history and temperature, I made another visit about 9 P. M., and, much to my surprise and satisfaction, found the woman perfectly comfortable, with a temperature of 99·5°, a drop of six degrees in less than four hours.



The next morning, November 24th, the woman seemed perfectly *well;* temperature normal. Another vaginal examination showed nothing but an apparently early pregnancy, still no discharge of blood, no abdominal tenderness nor pain.

At 6 P. M. I found the woman with rapidly recurring abdominal pains, evidently uterine, bleeding; and, on vaginal examination, found the os dilating rapidly. In the course of half an hour a fœtus of fully *three* months was expelled, followed in a short time by all the membranes. The fœtus was well formed; the top of the head was torn off, as though by some instrument. It was not putrid, nor were any of the discharges. The woman did very well, and in proper time was up and about.

CASE II.—Mrs. D., aged thirty, one living child, two miscarriages, now in third month of pregnancy. Taken with labor pains morning of March 1, 1885. Some hæmorrhage, no rise of temperature at first visit, much abdominal tenderness. Suddenly, at 3 P. M., the temperature rose to 103·5°, and fell again to normal just before fœtus was expelled at 6 P. M. The patient did perfectly well, and never had any return of fever.

These two cases illustrate well the purely nervous origin of some febrile conditions.

In the first case there was certainly no malarial influence, for the patient has been under observation ever since and been perfectly well. Neither was there any absorption of purulent matter in either case, for the febrile condition lasted but about three hours, and there was an entire absence of any of those symptoms of septicæmia which warn us of a serious trouble.

169 GREEN LANE, MANAYUNK.

Book Notices.

Transactions of the Academy of Medicine in Ireland. Vol. II. Edited by WILLIAM THOMSON, M. A., F. R. C. S., General Secretary. Dublin: Fannin & Co., 1884. Pp. xxxiv–504.

THIS volume is very creditable, both to the contributors and to the editor. The papers number upward of twenty, several of them being illustrated by lithographs. We note an interesting article upon pulsating liver, and a report of two cases of intestinal obstruction. Three of the articles in the surgical section are upon the radical cure of hernia. The obstetrical section includes the report of the Rotunda Hospital for the year ending November, 1883, and a long paper by Dr. Neville entitled "The Graver Fevers of Childbed," which is largely devoted to a refutation of Dr. Barker's views upon puerperal septicæmia. The author's conclusions are not new, but they bear the impress of sound common sense. The articles in the pathological section are enriched by several fine lithographs. The papers are all very brief, and none of them possess any special interest. Dr. Madden contributes a short essay on the increase of insanity. The type and binding of the volume are excellent.

Medical Rhymes. A Collection of Rhymes of ye Anciente Time, and Rhymes of the Modern Day; Rhymes Grave and Rhymes Mirthful; Rhymes Anatomical, Therapeutical, and Surgical; all Sorts of Rhymes to Interest, Amuse, and Edify all Sorts of Followers of Esculapius. Selected and Compiled from a Variety of Sources. By HUGO ERICHSEN, M. D., Professor of Neurology in the Quincy School of Medicine, etc. With an Introduction by Prof. WILLIS P. KING, M. D., Sedalia, Mo., Ex-president of the Missouri State Medical Society, etc. Illustrated. St. Louis, Chicago, and Atlanta: J. H. Chambers & Co., 1884. Pp. xx–220.

THIS is a book which, if it fulfills no more ambitious purpose, is admirably calculated to while away the weary hours with many a hard-worked and underpaid practitioner of the healing art. While to a certain extent it is made up of ditties with which almost everybody is familiar, including Oliver Wendell Holmes's "Good Physician," "Stethoscope Song," and "Rip Van Winkle, M. D.," the anonymous "Lines to a Skeleton," Burns's "Address to the Toothache," Tennyson's "In the Children's Hospital," Horace Smith's "Rabelais and his Lampreys," Thackeray's "Foundling of Shoreditch," and Ben Jonson's "To Doctor Empiric," it is not lacking in novelties, since it contains both "The Song of the Spores" and "The Ballad of Bacillus." It is not the verses alone that will prove entertaining; Dr. King's "Introduction" will be found a very clever piece of humorous delineation. If any of our readers are given to "the blues," we advise them by all means to possess themselves of this book, and we can assure those who are not so afflicted that they will find it a rare source of amusement.

BOOKS AND PAMPHLETS RECEIVED.

A Treatise on Amputations of the Extremities, and their Complications. By B. A. Watson, M. D., Surgeon to the Jersey City Charity Hospital, etc. Illustrated by upward of Two Hundred and Fifty Engravings and Two Full-page Plates. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xix–762. [Price, $5.50.]

Injuries of the Spine and Spinal Cord without Apparent Mechanical Lesion, and Nervous Shock, in their Surgical and Medico-Legal Aspects. By Herbert W. Page, M. A., M. C. Cantab., F. R. C. S., Surgeon to and Lecturer on Surgery at St. Mary's Hospital, etc. Second Edition. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xii–397. [Price $3.50.]

Insomnia and Other Disorders of Sleep. By Henry M. Lyman, A. M., M. D., Professor of Physiology and of Diseases of the Nervous System in Rush Medical College, etc. Chicago: W. T. Keener, 1885. Pp. x–239. [Price, $1.50.]

The Medical Directory of Chicago (including Cook County), for 1884–'85. Edited by Robert Tilley, M. D. Chicago: W. T. Keener, 1884. Pp. iii–179. [Price, $1.25.]

Official Register of Physicians and Midwives now in Practice to whom Certificates have been issued by the State Board of Health of Illinois, 1877–1884. Chicago: W. T. Keener, 1884. Pp. v–324. [Price, $1.50.]

The Medical Annual and Practitioner's Index: a Yearly Record of Useful Information on Subjects relating to the Medical Profession. 1885. London: Henry Kimpton. Pp. 16a–371. [Price, 2*s*. 6*d*.]

Handbook of Diseases of the Skin. Edited by H. v. Ziemssen, M. D., Professor of Clinical Medicine in Munich, etc. Contributors: Professor H. Auspitz, M. D., Vienna; V. Babes, M. D., Budapest; Professor E. Geber, M. D., Klausenburg; E. Lesser, M. D., Leipzig; P. Michelson, M. D., Königsberg; Professor A. Neisser, M. D., Breslau; Professor E. Schwimmer, M. D., Budapest; P. G. Unna, M. D., Hamburg; E. Veiel, M. D., and Th. Veiel, M. D., Cannstadt; A. Weyl, M. D., Berlin; and Professor H. v. Ziemssen, M. D., Munich. Illustrated with Eighty Wood Engravings and Color Prints. New York: William Wood & Co., 1885. Pp. x–658.

Operative Surgery in the Calcutta Medical College Hospital: Statistics, Cases, and Comments. By Kenneth McLeod, A. M., M. D., F. R. C. S. E., Fellow of the University of Calcutta, etc. London: J. & A. Churchill, 1885. Pp. x–351.

An Introduction to the Study of the Compounds of Carbon; or, Organic Chemistry. By Ira Remsen, Professor of Chemistry in the Johns Hopkins University. Boston: Ginn, Heath & Co., 1885. Pp. x–364.

Modern Therapeutics of the Diseases of Children, with Observations on the Hygiene of Infancy. By Joseph F. Edwards,

M. D., Editor of the "Annals of Hygiene," etc. Philadelphia: D. G. Brinton, 1885. Pp. vii-17 to 346, inclusive.

The Nature of Mind and Human Automatism. By Morton Prince, M. D., Physician for Nervous Diseases, Boston Dispensary, etc. Philadelphia: J. B. Lippincott Co., 1885. Pp. x–173. [Price, $1.50.]

Minor Surgical Gynæcology. A Treatise of Uterine Diagnosis and the Lesser Technicalities of Gynæcological Practice, including General Rules for Gynæcological Operations and the Operations for Lacerated Cervix and Perinæum, and Prolapsus of the Uterus and Vagina. For the Use of the Advanced Student and General Practitioner. By Paul F. Mundé, M. D., Professor of Gynæcology at the New York Polyclinic and at Dartmouth College, etc. Second Edition, Revised and Enlarged. With Three Hundred and Twenty-one Illustrations. New York: William Wood & Co., 1885. Pp. xxii–552.

A Practical Treatise on Nasal Catarrh and Allied Diseases. By Beverley Robinson, A. M., M. D. (Paris), Clinical Professor of Medicine at the Bellevue Hospital Medical College, etc. Second Edition, Revised and Enlarged. With One Hundred and Fifty-two Wood Engravings. New York: William Wood & Co., 1885. Pp. xii–276.

The Microscope in Botany. A Guide for the Microscopical Investigation of Vegetable Substances. From the German of Dr. Julius Wilhelm Behrens. Translated and edited by Rev. A. B. Hervey, A. M., assisted by R. H. Ward, M. D., F. R. M. S. Illustrated with Thirteen Plates and One Hundred and Fifty-three Cuts. Boston: S. E. Cassino & Co., 1885. Pp. xv–466. [Price, $5.]

The Curability and Treatment of Pulmonary Phthisis. By S. Jaccoud, Professor of Medical Pathology to the Faculty of Paris, etc. Translated and Edited by Montagu Lubbock, M. D. (Lond. and Paris), M. R. C. P. (Eng.), Assistant Physician to Charing Cross Hospital, etc. New York: D. Appleton & Co., 1885. Pp. xiii–407. [Price, $4.00.]

Transactions of the New York State Medical Association, for the Year 1884. Volume I. Edited for the Association by Austin Flint, Jr., M. D., of New York County. New York: D. Appleton & Co., 1885. Pp. vii–654. [Price, $5.]

The Medical Aspects of Bournemouth and its Surroundings. Illustrated with Chromo-lithographs (by Hanhart), and Photographs (by Debenham and Gould), from Original Sketches by the Author. By Horace Dobell, M. D., etc. London: Smith, Elder & Co., 1885. Pp. xv–338.

The Child's Voice: its Treatment with Regard to After-development. By Emil Behnke, Lecturer on Vocal Physiology, etc., and Lennox Browne, F. R. C. S. Ed., Senior Surgeon to the Central Throat and Ear Hospital, etc. London: Sampson Low, Marston, Searle & Rivington, 1885. Pp. xii–136. [Price, 3*s.* 6*d.*]

The Oleates. An Investigation into their Nature and Action. By John V. Shoemaker, A. M., M. D., Lecturer on Dermatology at the Jefferson Medical College, etc. Philadelphia: F. A. Davis, Att'y, 1885. Pp. vi–121.

The New Local Anæsthetic, Hydrochlorate of Cocaine (Muriate of Cocaine), and Etherization by the Rectum. By Laurence Turnbull, M. D., Ph. G., Aural Surgeon to Jefferson Medical College, Philadelphia, etc. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. 76. [Price, 50c.]

A Clinical Illustration of the Value of combining Motion with Extension in the Treatment of Disease of the Hip Joint. By Benjamin Lee, M. D., Ph. D., Philadelphia. [Reprinted from the "Transactions of the Medical Society of the State of Pennsylvania."]

On the Affections of the Skin induced by Temperature Variations in Cold Weather. By James Nevins Hyde, M. D., etc., Chicago. [Reprinted from the "Chicago Medical Journal and Examiner."]

A Case of Double Narcotic Addiction—Opium and Alcohol; Imbecility; Recovery. By J. B. Mattison, M. D., Brooklyn. [Reprinted from the "Canada Lancet."]

Clinical Observations on the Treatment of Severe Railroad Injuries of the Extremities. By James McCann, M. D., etc., Pittsburgh, Pa. [Reprinted from the "Transactions of the American Surgical Association."]

Harveian Lectures on the Mode of Death from Acute Intestinal Strangulation and Chronic Intestinal Obstruction. Delivered before the Harveian Society of London, 1884. By Thomas Bryant, F. R. C. S., etc. London: J. & A. Churchill, 1885. Pp. 52. [Reprinted from the "British Medical Journal."]

Review of the Drug Trade of New York for the Year 1884. Prepared by D. C. Robbins, Esq., for the Twenty-seventh Annual Report of the Chamber of Commerce of the State of New York.

Report of the St. Elizabeth's Hospital and Home, and St. Elizabeth's Hospital Dispensary, for the Years 1882, 1883, and 1884. Utica, N. Y.

Proceedings of the State Board of Health of Kentucky. Quarterly Meeting held at Louisville, March 16 and 17, 1885.

Specialties and their Relation to the Medical Profession. By L. Duncan Bulkley, A. M., M. D., etc. [Reprinted from the "Journal of the American Medical Association."]

On Idiopathic Anæmia. A Report of Three Cases, with Remarks; and an Analysis of the Cases hitherto published in America. By J. H. Musser, M. D., etc., Philadelphia. [Reprinted from the "Proceedings of the Philadelphia County Medical Society."]

Facts serving to prove the Contagiousness of Tuberculosis. By W. H. Webb, M. D., Philadelphia. Philadelphia: W. F. Fell & Co., 1885. Pp. 28.

Correspondence.

LETTER FROM ST. LOUIS.

The Murder at the Southern Hotel.—Sanitation in St. Louis.

St. Louis, *April 27, 1885.*

Two or three matters which have been absorbing a good deal of thought and attention in St. Louis lately may be of some interest to your readers.

The mystery of the Southern Hotel murder, which has caused such a sensation here and which has been telegraphed all over the world, involves some medico-legal points which make it not inappropriate to refer to it in a medical journal.

Briefly, in a room at the Southern Hotel, on the 14th inst., was discovered a human body, in an advanced stage of decomposition, packed away in a trunk. The room had been occupied by two Englishmen, one of whom, C. Arthur Preller, had not been seen since the afternoon of Sunday, April 5th. The other, who gave his name as W. H. Lennox Maxwell, had been seen on the following day. The body in the trunk has been identified as Preller. Maxwell has been traced to San Francisco, where he bought a steerage ticket by a steamer to Auckland, New Zealand. Word has been sent to New Zealand to arrest the man on his arrival there. He may, however, leave the vessel at Honolulu, with which port there is no means of telegraphic communication. Another theory which has been advanced by some is that Maxwell is still in this country, that he bought the steerage ticket on the steamer and went on board, taking pains to be seen to do this, and then, having rapidly disguised himself in some secluded part of the vessel, came off again without being noticed in the midst of the bustle and confusion of the last minutes before the vessel left the dock.

Maxwell was here for some days before Preller arrived. He professed to be a physician, and talked a good deal of the experiences which he had had in the British army, having served in Egypt and elsewhere abroad. The two Englishmen seemed to be very intimate friends, and spent much time together. On the Sunday referred to, Maxwell procured chloroform twice at an apothecary's shop just across the street from the hotel; the second time he seemed to be in great haste. The same afternoon a gentleman who occupied an adjoining room heard moaning as if some one was sick, and called the attention of one of the bellboys to the circumstance.

In the trunk with the body was a large card on which were written the words: "So perish all traitors to the great cause." Whether this indicates any clew to the cause of the crime has not yet been made to appear.

The following is the coroner's official statement of the result of the post-mortem examination:

"Upon receiving the body, I noticed it in an advanced stage of decomposition, and upon the center of the chest a slight cutting of the skin in the shape of a cross. On raising the scalp, I found no evidence of injury to either scalp or skull. The tumefaction of the scalp was the result of decomposition. On removing the skull-cap, I found no fracture nor evidence of injury to the membrane or brain. On cutting through the dura mater, the brain structure oozed out in a pulpy mass. On opening the chest, I found the heart and lungs sound. On opening the abdominal cavity, I found the stomach extremely reddened and congested, indicating inflammatory action, while the intestinal tube throughout its extent appeared perfectly normal. My opinion is that some corrosive poison was used. Cause of death to me uncertain.

[Signed] "James C. Nidelet, M. D."

A matter of interest to us as physicians is the success of the endeavor to restore the features of the deceased to a condition such that they could be recognized. The condition of the body when first discovered was such, the features were so swollen, distorted, and discolored, that no one could recognize it at all, but injections of some embalming fluid so reduced the swelling and restored the natural coloring that the attempt is regarded as a complete success.

Professor Charles Luedeking, of Washington University, made a careful analysis of the stomach. No evidence was found of the presence of any of the mineral poisons. There was a small quantity of alcohol, but not enough to account for death, or to indicate that the man was intoxicated when death took place. The presence of ptomaines rendered the determination of any alkaloidal poisons a matter of difficulty. This examination has not yet been completed. Testing the stomach for chloroform gave an uncertain result, and therefore Professor Luedeking secured the lungs from the coroner. The tests demonstrated the presence of chloroform in notable quantities in the lungs and in the blood contained in them.

After hearing the results of the chemist's analysis, the coroner's jury brought in a verdict of murder, finding Maxwell responsible for the same.

In Maxwell's trunk was found a copy of Hooper's "Physicians' Vade Mecum," in which the chapter on chloroform and its administration gave evidence of having been much studied, various marks and notes being found in the margin.

There are a good many features of interest in a general way in connection with this case, but I think I have mentioned all that have been developed thus far that are of special professional interest.

Sanitary work is being prosecuted quite vigorously now under an impulse received from the "Citizens' Sanitary Aid Committee." A large number of sanitary inspectors have been set to work, a thorough house-to-house inspection of the whole city is in progress, and a large amount of cleansing, ventilating, disinfecting, etc., is being carried on, as the result of notices issued by the board of health upon the results of these inspections.

The sanitary officers are under appointment from the board of health, but are paid from a fund raised by the citizens' committee, inasmuch as the Municipal Assembly failed to make any appropriation for the doing of such work directly by the city.

Our new Mayor is taking a more active interest in the health department than his predecessor took. Mayor Francis attends regularly the meetings of the board of health, of which he is the *ex-officio* president, while his predecessor was scarcely ever present.

Much has been said and written of late with regard to the water supply of our city. It has been found that there are from six thousand to eight thousand wells within the city, and analyses have been made of the water in a large number of them.

Professor W. B. Potter, of Washington University, delivered a lecture some weeks ago, being one of a course of popular lectures on topics relating to public health, given under the auspices of one of the Councils of the Legion of Honor. The lecture was a very able one, and was illustrated with a number of photographs, showing the relative position of wells to sewers, privy-vaults, and stables in a number of different localities in the city.

This lecture did a good deal to stir up the public interest, and still more has been done through the Commercial Club—an association of leading business men, with one or two physicians and other professional men.

Largely through their agency the Municipal Assembly was induced, at the late session, to adopt more vigorous measures in regard to the closing of these wells, though even this fixes the absurdly high limit of six grains of chlorine to the gallon of water as a maximum.

All wells standing in public streets or sidewalks, which shall be found on analysis to contain six grains or more of chlorine to the gallon of water, are peremptorily abolished by the ordinance, and, on official certification of such fact by the board of health to the street commissioner, it becomes the duty of that officer to close and fill the same within ninety days.

Wells on private property are also to be closed when found to contain an excess of chlorine, but the owner must have five days' notice to appear before the board of health and show cause why his well should not be declared a nuisance and ordered closed.

A well standing on a street corner within three feet of a sewer entrance was found to contain 15·29 grains of chlorine to the gallon of water. I am glad to say that the grocer who sank this well has closed it voluntarily since his attention was called to its condition.

A well in a yard in a thickly settled part of the city was found to contain 36·33 grains of chlorine to the gallon of water—an amount nearly double that found in any one of a dozen samples of water taken direct from sewers and tested.

It is expected that vigorous opposition will be made to the enforcing of this ordinance, but the board of health is determined to carry out its provisions as efficiently as possible, and, if the ordinances already passed are not sufficient to accomplish what is necessary, the board will urge further legislation.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MAY 9, 1885.

THE INTERNATIONAL MEDICAL CONGRESS AND THE AMERICAN MEDICAL ASSOCIATION.

We can not shut our eyes to the conviction that this country labors under certain disadvantages in undertaking to follow Great Britain and Denmark in the task of organizing a successful meeting of the International Medical Congress. These disadvantages need not be enumerated; they are such as will readily be brought to mind by any thinking man. In view of these difficulties, it is doubly to be regretted that a bitter antagonism has sprung up between the committee on organization and the American Medical Association, which latter body, having taken upon itself, as was perfectly proper, to issue the invitation to the Congress to hold its next meeting in this country, now presumes to dictate in regard to the minutest details of the arrangements. Just as it had begun to appear that the committee had achieved something tangible in the direction of doing away with the difficulties to which we have alluded, by an unusually representative and creditable organization—for we can not agree with our contemporary, the "Medical Record," that there was some ground for the dissatisfaction which cropped out in New Orleans—comes this shameless attempt by a few soured men to throw cold water on the whole affair.

We do not impute sinister motives to the meeting as a whole, for the facility with which an assemblage may be swayed by designing and crafty men is proverbial, and the American Medical Association has repeatedly shown its pre-eminent alacrity at being led by the nose. Especially is this excuse to be entertained in behalf of the association when we remember that the red rag of the new code was craftily flaunted in the members' faces. How little sincerity there was in that move may be inferred from the total lack of support given to a motion to acquiesce in the committee's work, provided the new-code men were dropped from the list of officers of the Congress, and the fact that the motion was promptly voted down. Nor do we attach much more importance to all the gas that was let loose about the West and the South having been ignored. It was not that the malcontents cared a fig to oust any man on account of his ethical proclivities or the place of his residence; they simply wanted the "ins" to be made "outs" in order that they themselves might become "ins." To accomplish this purpose, they naturally seized hold of the most promising pretexts, and the event proved the depth of their cunning. To stir up such a dissension under the most galling provocation would have been bad enough, in view of the disgust it can not fail to create in Europe; but on such a transparent foundation of greed for place—bah!

But what is to come of it all? We are not acquainted with the intentions of the original committee, Dr. Billings, Dr. Hays, and their associates, but we sadly misjudge them if they are the men to submit tamely to such an affront, especially as not only they themselves, but the undertaking they have in charge, will surely be ruined by their submission. We trust, indeed, that no particular display of "backbone" will be called for, for we have an abiding faith that the new thirty-eight, recognizing into what an unsavory mess their constituents have thrown them, will refrain from any attempt to undo the work of their elder brethren; and, fortunately, they do not seem to have been "instructed." By such a course they would undoubtedly avert a threatened disaster and commend themselves to the "sober second thought" of their brethren throughout the land, who, we are confident, are not seriously prepared to throw overboard Dr. Austin Flint and the other honored men who figure with him on the present list of officers of the Congress.

CHEAP LABOR.

It is a well-recognized principle, as old as Scripture, if not older, that a man can have no reasonable expectation of reaping where he has not sown. It is by none more forcibly appreciated than by the younger members of the medical profession, who have ample opportunities of perfecting themselves in the art of sowing where they are not to take part in the harvest. The young physician is commonly expected to do a certain amount of work for which he is to receive no compensation; in fact, it seems to be the general opinion that he should be thankful for "something to do" at any price or at no price. All this is well known, but in New York particularly there appears to be a common delusion that a young practitioner's time is worth little or nothing, and that he should be perfectly ready to do any number of odd jobs, and take them as so many favors.

Perhaps the most striking feature of this delusion is seen in the department of pathology. If the aspirant to professional success is so misguided as to look for wealth and fame in this direction, his fate is dismal in the extreme. Specimens are rained down upon him, with the request for "a little report." Unfortunately, "a little bill" is not expected to accompany the report. The would-be pathologist is at first gratified at the abundance of material, but after a time this begins to pall, and he realizes sadly that there is very little "money in it." This is not jesting; it is in sober earnest. We have known numbers of young men whose time was so much taken up with gratuitous work that they were not able to pay their expenses. The question for decision by the older members of the profession is, Is it right to ask for the time and brains of their younger brethren, and yet to entertain no thought of giving an adequate compensation?

THE COMPULSORY REPORT OF INFECTIOUS DISEASES.

We desire to call attention to a resolution recently adopted by the Board of Health, which our readers will find in another column. No reasonable man can for a moment question the justice of the board's action in this matter, for it aims simply at providing for the protection of the entire community. We see no reason why physicians should be the only citizens allowed to disregard the municipal ordinances with impunity, especially when their carelessness in this respect may be fraught with disastrous consequences. It is not an unreasonable request which is made by the authorities—we call it a *request*, because they have hitherto shown such leniency toward the profession as not to make it an inexorable demand, as they have long had a perfect right to do. The board's willingness to assume all the care of disinfecting in cases of infectious disease, as well as its gratuitous work in assisting in the diagnosis of obscure cases, together with its invariable courtesy toward the medical profession, must be said to deserve a better return than has hitherto been accorded.

Physicians are notoriously "slack" in their business habits, but their negligence is inexcusable under the circumstances to which we refer. Not to speak of the imperfect statistics which must result from the failure on the part of the profession to report cases of infectious disease (so that the number of deaths from those affections has sometimes actually exceeded the number of cases that had been brought to the attention of the authorities before the fatal termination), the danger incurred by the community at large is an element too often lost sight of. We heartily approve of the resolution passed by the board, while at the same time we deeply regret the state of things that called for it. If we mistake not, its enforcement will affect some of the most prominent members of the profession; nevertheless, let the ordinance be observed. If a physician will not obey the laws, he must be made to do so, like any other citizen.

ANTIPYRINE.

So much has already been written concerning this new drug that we can not hope to add anything new. The excellent article by Dr. Draper, in the "Journal" for April 18th, covers in a short space the main facts with reference to antipyrine, both historical and clinical. He speaks highly of its antipyretic properties, but calls attention distinctly to the fact that it does not appear to have any specific effect upon the febrile affections in the treatment of which it is recommended. This is an important point, since the reader is apt to form a contrary impression after reading the enthusiastic reports of German observers. Dr. Draper adds the caution that the drug is one which can not be given indiscriminately. Occasionally unpleasant symptoms are noticed, such as vomiting, chills, and profuse perspiration.

In connection with Dr. Draper's article, we would refer the reader to one on the same subject, in another number of the "Journal," in which the writer, Dr. Butler, is equally emphatic in praise of the drug as a pure febrifuge. He notes especially the great rapidity with which the temperature was lowered, and makes the important statement that antipyrine is not an antiperiodic, in which fact lies one of its principal points of difference from quinine. Neither of these authors has attempted an explanation of the *modus operandi* of the drug; in fact, in the present state of our knowledge, any explanation would necessarily be largely theoretical. Dr. Draper expresses its action tersely when he says that "It smothers, but does not extinguish, the fire." It is still *sub judice*, and we trust that a sufficient number of observations will be made in hospital practice to fully test the new remedy. The one criticism to be urged against scientific medicine in this country is, that the observers are so few and far between. When some brilliant novelty (such as cocaine) appears, every one is ready to try it: but for patient, long-continued experiments we are not distinguished. We hope to see antipyrine given a fair trial, not only by city practitioners, but by their brethren in the country, the latter of whom are frequently quite the equals of their metropolitan *confrères* as original observers.

THE UTERINE CIRCULATION.

One of the striking features of modern medicine is the advance in the department of gynæcology. Although that branch has never been positively stationary, yet certain moss-grown traditions have crept over it which it is not easy to dislodge. The old ideas of uterine pathology, and above all the theories of displacement, with the time-honored diagrammatic figures that have been copied from one treatise into another for nearly half a century—these have been held with a tenacious grasp. But the last year has seen many changes, and doubtless there is more iconoclasm still to come.

An important paper on the mechanical theory of displacements was recently read, by Dr. John Williams, before the Obstetrical Society of London. In the course of his remarks, as reported in the "Lancet," he demonstrated clearly that the uterine circulation was so free that any segment of the organ might be constricted without affecting the blood supply to any segments above or below the constricted point. The natural inference was, that simple flexion could not occasion congestion, as was taught by Graily Hewitt. Dr. Hewitt of course opposed this view, citing numerous clinical observations to sustain his theory; but the fact remained that the arguments of his opponent, founded as they were on a sound anatomical basis, were not easy to answer.

We regard this discussion as a highly significant one, not only from its inherent importance, but because it is one of those "straws" that show which way the wind blows. One thing is certain; the gynæcology of the future will not be made up of a collection of mere personal theories, but will obtain credence only when its teachings agree with the revelations of the dead-house and the dissecting-room. Our English contemporary pertinently expresses with regard to this matter the hope that the "rising generation will henceforth be fed with facts, and allowed to judge for themselves."

MINOR PARAGRAPHS.

DEAFNESS AS THE ALLEGED RESULT OF A BLOW.

The question of how much reason there may be for the warnings that otologists have given from time to time of the danger of damage to the organ of hearing as the result of a blow on the ear seems likely to be tested in one of our city courts. A gentleman has been sued for striking a boy on the ear, thereby, as the boy's father seeks to prove, causing his deafness more or less complete. The testimony as to matters of fact appears to differ only in regard to the severity of the blow, and the issue of the suit seems about to turn on the medical testimony concerning the degree of violence necessary to injure the ear. It is interesting to note that Dr. D. B. St. John Roosa is reported to have testified that, in his opinion, the blow could not have produced deafness unless it was severe enough to knock the boy down, and that deafness was common in children, being usually the result of cold. Dr. Roosa testified also that deafness might take place in consequence of immoderate sea-bathing, and, as regards the boy in question, a witness was produced who testified that "they had a tough time to keep him out of the water"

THE ENDEMIC IN THE WYOMING VALLEY.

At the time of our going to press the news from the plague-stricken town of Plymouth, Pa., is to the effect that there are fourteen hundred of the inhabitants sick with the fever that has been raging there for several weeks past. The destitution and dismay that are so apt to follow in the wake of a pestilence are also pictured vividly in the dispatches to the newspapers. As is so commonly the case, too, the most dismal feature of the matter to reflect upon is the probability that all this suffering might have been prevented by sanitary precautions such as at the present day no community is excusable for neglecting.

AN ANTI-VACCINATION DEMONSTRATION.

We learn from the "Lancet" that the working classes of Leicester have recently indulged in an outbreak against public vaccination. The usual trite arguments were brought to bear against the practice. We have already expressed ourselves so fully on this subject that further comment seems unnecessary. If the arm-to-arm method of vaccination were abandoned in England, there is some reason to think the masses would make far less opposition to the practice.

THE TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION.

The first volume of the "Transactions of the New York State Medical Association" has reached us, and we must say that it is one of the handsomest volumes of its class that we have ever seen. Concerning the papers that make up the greater part of the contents we need say little, as most of them have already been published in our columns. For general excellence we think they will compare very favorably with those published by any medical society in the country, not excepting those of national scope. The volume has been edited by Dr. Austin Flint, Jr., and shows evidence throughout of the most painstaking care. The "Transactions" are issued by Messrs. D. Appleton & Co.

PERMANGANATE OF POTASSIUM IN THE TREATMENT OF AMENORRHŒA.

Mr. Deas reports, in a recent number of the "British Medical Journal," successful results from the use of this drug in cases of amenorrhœa associated with mental disturbance. He regards the permanganate as a nervine tonic, as well as an emmenagogue, and says that he has never observed any gastric or intestinal irritation after its use. So many conflicting statements have appeared, in our own and the foreign journals, with reference to the action of the drug, that it is rather difficult for the reader to derive a clear idea of its value. It is desirable that an extended series of experiments should be made in hospital practice, with the view of determining the true limits of its usefulness. So far as our own experience extends, the permanganate, even in doses of a grain, causes serious gastric disturbances, so that after a brief trial patients object very decidedly to continuing its use.

CASES OF TUBAL PREGNANCY.

In a recent number of the "British Medical Journal," Mr. Lawson Tait reports three cases of tubal pregnancy, with consequent rupture of the tube, in which laparotomy was performed successfully. Mr. Tait has now saved eight women out of nine in whom a similar condition existed. This is a remarkable record, and we do not know which to admire most, the accuracy of the diagnosis or the promptness with which the emergency was met. In Mr. Tait's opinion, all cases of extra-uterine pregnancy are of the tubal variety.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 5, 1885:

DISEASES.	Week ending Apr. 28.		Week ending May 5.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	9	5	12	6
Scarlet fever	80	17	68	14
Cerebro-spinal meningitis	4	2	8	7
Measles	184	15	141	20
Diphtheria	46	28	58	23

An Endemic of Typho-malarial Fever—for, from the accounts, that seems to be its nature—is now raging in the town of Plymouth, Pennsylvania. The water-supply is said to be foul, and the general condition of the place as to cleanliness most wretched.

Returns of Infectious Diseases to the Board of Health.—A recent official communication from Dr. James B. Taylor, chief of the division which has charge of contagious diseases and disinfection, to Dr. W. DeF. Day, the sanitary superintendent, contained the following statement: "The number of cases of contagious disease reported to this department are so out of proportion to the deaths that we can no longer doubt that physicians are becoming more and more neglectful in reporting them.

"Monthly Reports of Deaths from November 1, 1884, to March 14, 1885.

	Total No.	Reported.	Not reported.
"November	325	137	188
"December	372	166	206
"January	347	165	182
"February	312	139	173
"March (to the 14th)	146	54	92

"That is, out of 1,502 deaths from contagious diseases, only 661 had been previously reported."

Thereupon the board passed the following resolution:

Resolved, That the sanitary superintendent be directed to send to the attorney, for prosecution, the name of every physician neglecting to comply with section 131 of the Sanitary Code, which relates to the reporting by the physician of all cases of contagious disease which he has prescribed for, or attended for the first time, during any part of the preceding twenty-four hours.

Section 131 reads as follows:

> "That every physician shall report to the Sanitary Bureau, in writing, every person having a contagious disease (and the state of his or her disease, and his or her place of dwelling and name if known), which such physician has prescribed for or attended for the first time since having such a contagious disease, during any part of the preceding twenty-four hours; but not more than two reports shall be required in one week concerning the same person; but every attending or practicing physician thereat must, at his peril, see that such report is or has been made by some attending physician."

The State Board of Health ought to meet with no opposition in the Legislature to its request for an additional appropriation of $15,000 to enable it to prosecute the unusual amount of work which, in view of the chance of a visitation of cholera, it must hold itself in readiness to undertake; but there seems to be, we regret to say, a disposition on the part of some of the legislators to sacrifice the sanitary, and therefore all, the interests of the State in the hope of currying favor with a certain class of their constituents.

The Carnegie Laboratory Building.—The profession is respectfully invited to inspect the Carnegie Laboratory building, which will be open on Thursday, May 14th, from 8 to 10 P. M. The laboratories are now in working order, and the directors and assistants will exhibit during the evening bacteria, pathological specimens, etc.

By order of the Building Committee.

The New York Post-Graduate Medical School and Hospital has opened a physiological laboratory in the hospital building. The laboratory is intended to encourage physiological research, and is open to all physicians who may desire to make investigations in this department. The director is Dr. G. M. Hammond. Applications for opportunities to work in the laboratory may be made to the superintendent of the School and Hospital.

Vivisection in Philadelphia.—The "Philadelphia Telegraph" states that the trustees of the University of Pennsylvania have adopted the following rules to govern vivisection in that institution:

Experiments may be made on living animals for the purposes of serious inquiry or in the giving of instruction of an important character. Experiments on animals are only permissible during lectures, so far as they may be necessary for the lecturer to explain his subject-matter. The operative preparations for the lecture must, as a rule, be made before the commencement of the demonstration and in the absence of those attending the lectures. The lecture experiments on animals may be performed only by the professors and lecturers, or on their responsibility. Experiments which can be made on the lower animals, without essential prejudice to the result required, are only to be performed on these, and not the higher animals. In all cases, whether for research or instruction, in which it is not absolutely incompatible with the objects of the experiment, the animals must be put under the full influence of anæsthetics in such a manner that the effect of the anæsthetics shall last for a sufficient time.

The International Sanitary Conference.—The "British Medical Journal" learns that the Italian Government has telegraphed invitations to the European powers to take part in the International Sanitary Conference to be opened at Rome on the 15th of this month. In addition to discussing methods for preventing the introduction of cholera into Europe, it is supposed that the conference will consider general epidemic diseases and the idea of founding a permanent European sanitary council.

The University of Pennsylvania.—The annual commencement of the Medical Department was held on Friday, the 1st inst., and the degree of doctor in medicine was conferred on one hundred and seven candidates, and that of doctor of dental surgery on forty-nine.

Alleged Poisonous Mineral Waters.—A maker of mineral waters in New York has lately been brought before a police court charged with using well-water contaminated with sewage in the manufacture of his wares. He was put under bail to appear for trial at the Court of Special Sessions.

A New Board of Health has been organized for the town of Newtown, L. I., and the hope is expressed that a "reform policy" will be pursued by the board.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 26, 1885, to May 2, 1885:*

BYRNE, CHARLES C., Major and Surgeon. Assigned to duty as attending surgeon at the Soldiers' Home, D. C., to take effect May 15, 1885.

DE WITT, CALVIN, Captain and Assistant Surgeon. Upon being relieved by Surgeon Byrne, ordered to report to the Surgeon-General of the Army. S. O. 94, A. G. O., April 25, 1885.

TORNEY, GEORGE H., Captain and Assistant Surgeon. Assigned to duty at Fort Monroe, Va. S. O. 87, Department of the East, April 25, 1885.

ARTHUR, WILLIAM H., First Lieutenant and Assistant Surgeon. Assigned to duty at Fort Niagara, N. Y. S. O. 89, Department of the East, April 28, 1885.

Society Meetings for the Coming Week:

MONDAY, *May 11th:* New York Academy of Sciences (Section in Chemistry and Technology); New York Ophthalmological Society (private); New York Medico-Historical Society (private); Indiana State Medical Society (Indianapolis—first day); Boston Society for Medical Improvement; Gynæcological Society of Boston; Norwalk, Conn., Medical Society; Burlington, Vt., Medical and Surgical Club.

TUESDAY, *May 12th:* New York Surgical Society; New York Medical Union (private); Medical Societies of the Counties of Greene (Cairo) and Rensselaer, N. Y., and Camden, Morris, and Sussex, N. J.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private); Indiana State Medical Society (second day); Norfolk District, Mass., Medical Society (Hyde Park); Franklin County, Vt., Medical Association.

WEDNESDAY, *May 13th:* New York Pathological Society; American Microscopical Society of the City of New York; New York Medico-Legal Society; Indiana State Medical Society (third day); Medical Society of the County of Cayuga, N. Y.; Pittsfield, Mass., Medical Association (private); Franklin District, Mass., Medical Society (Greenfield); Hampshire District, Mass., Medical Society (Northampton); Worcester District, Mass., Medical Society (Worcester).

THURSDAY, *May 14th:* Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Harlem Medical Association of the City of New York; South Boston, Mass., Medical Club (private).

SATURDAY, *May 16th:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

Proceedings of Societies.

AMERICAN MEDICAL ASSOCIATION.

Section in Surgery and Anatomy.

The Chairman, Dr. Duncan Eve, of Tennessee, in the Chair.

False Doctrine in the Treatment of Fractures was the title of the first paper, read by Dr. John B. Roberts, of Philadelphia. He maintained that a primary bandage, when applied beneath a splint, was often unnecessary and frequently did damage. Passive motion was often employed too early, especially when the fracture was in the neighborhood of a joint; in such cases it was not only useless to prevent ankylosis, but positively injurious by setting up inflammation. Under other circumstances it was not needed before the lapse of three or four weeks, or until union was well established. Splints were often kept applied too long; in cases of fracture of the tibia or fibula he generally allowed the patient to go about at the end of ten or twelve days, and with fracture of the radius no splint was usually needed after the same length of time. In fractures of the skull there was not so much danger from exploring the fracture as from neglect to do so. In fractures of the nose it was impossible to keep the arch in proper position with the adhesive-plaster dressing, as was sometimes attempted; the best way was, generally, to transfix with pins. It was unnecessary to insert tubes into the nasal passages unless for the purpose of maintaining apposition. For fractures of the clavicle the axillary pad was generally worthless; if the posterior part of the scapula was fixed, the pad was unnecessary. In fractures of the surgical neck of the humerus, instead of the internal angular splint, it was generally best to carry the arm forward and maintain it against the side, with the hand elevated to the opposite shoulder, and use a small axillary pad. In fractures at or near the elbow he did not approve of the anterior and posterior angular splints, but thought the best results would be obtained by means of the straight position. As to the interosseous pad in fractures at or near the middle of the forearm, it did not effect what was expected of it. In fractures of the phalanges and metacarpal bones, one of the best methods of securing and maintaining apposition, and avoiding deformity from overlapping, etc., was by the use of a splint attached to the forearm and extending beyond the ends of the fingers, whereby extension could be kept up by strips of adhesive plaster.

In the matter of diagnosis, shortening was not of so much value as many supposed, from the fact that there were often normal differences between the two sides.

The subject was discussed by Dr. Buck, of Iowa; Dr. Quinby, of New Jersey; Dr. Budd, of Missouri; Dr. Murphy, of Minnesota; Dr. Byrd and Dr. Cook, of Illinois; and Dr. White, of New York.

The Treatment of Compound Fractures by Free Drainage and Wiring of the Bones was the title of the next paper, by Dr. W. P. Verity, of Chicago. He thought no fragments should be removed unless they proved sources of irritation, as they were needed for support and should be wired together. He reported several very interesting cases and illustrated them with drawings. The discussion was postponed until the next day.

Do We find from Micro-organisms in Inclosed Cavities a hitherto Unsuspected Danger to Surgical Lesions? was the title of the first paper read on the second day, by Dr. H. O. Marcy, of Boston. The author cited several cases of ovarian cysts in which micro-organisms had been found in the ovarian fluid.

In the discussion, Dr. Byrd, of Illinois, referred to a case of abdominal enlargement in which he had performed tapping, and afterward, as there seemed to be more trouble, done laparotomy for the removal of the cyst, but found the abdominal cavity perfectly normal.

Dr. Hurst, of Illinois, thought that Dr. Byrd's case was probably one of hydronephrosis, and that an operation should not have been performed without a microscopical examination of the fluid which had been withdrawn.

Dr. Peck, of Iowa, alluded to a case in which he had diagnosticated a large ovarian tumor, and had put the patient under treatment preparatory to the performance of ovariotomy, when she suddenly died, soon after coitus, probably from rupture of the cyst.

The Surgical Treatment of Cysts of the Pancreas was the title of the next paper, by Dr. N. Senn, of Milwaukee. The paper was exhaustive and interesting, and ended with the following conclusions: 1. Cysts of the pancreas are true retention cysts. 2. Cicatricial contraction or obliteration of the common duct or its branches, and impacted calculi, are the most frequent causes. 3. A positive diagnosis is impossible; a probable diagnosis of this or some other cyst amenable to the same treatment is enough for all practical purposes. 4. The formation of a pancreatic fistula, under antiseptic precautions, commends itself as the safest and most expedient operation.

Two Ovariotomies on the Same Patient.—Dr. Joseph Ransohoff, of Cincinnati, read a paper with this title. Commenting on the case, he gave some statistical information concerning the frequency of bilateral ovarian disease and the increased danger of bilateral ovariotomy. On this account, and because there was a possibility of impregnation when even a partially diseased ovary remained, conservatism should be practiced except in women approaching the climacteric. Of thirty-two women on whom ovariotomy had been performed twice, five had given birth to an aggregate of fourteen children during the interval between the operations. Furthermore, the mortality of second ovariotomies was light, since in thirty-two cases only four out of the five deaths were directly attributable to the operation.

The paper was discussed by Dr. Reid, of Ohio, and Dr. Warren, of New York.

Giant Growth of the Lower Extremities.—This was the title of a paper describing a case of excessive development of the lower limbs in which the feet measured over twenty inches in length.

A Case of Necrosis of the Tibia and Fibula of Ten Years' Duration was the subject of the next paper, by Dr. R. H. Jenkins, of Georgia. At the operation, almost the entire tibia was removed, together with a portion of the fibula, and the patient made a good recovery and had a useful limb.

The Discussion on Dr. Verity's Paper was then taken up. Dr. Ransohoff asked the author in what cases he would recommend wiring. He was answered, In cases where it was otherwise impossible to keep the fragments in apposition, which was often the case if the soft parts were so mutilated as to make the wearing of a splint impracticable; and also where it was necessary to get at the parts frequently for purposes of cleanliness and drainage.

Dr. Byrd thought there were good reasons for resorting to the measure even in some cases that were not complicated with a wound, like those of fracture of the jaw, for instance.

Colo-proctitis treated with Hot-Water Douches and Stretching or Division of the Sphincters was the subject of the first paper read on the third day, by Dr. A. Y. P. Garnett, of Washington. He reported a number of cases that had been so treated. The patients had been kept in bed and restricted to a diet of half a pint of milk every three hours. Injections of hot water, with twenty drops of laudanum, were given every few hours. In other cases, more stubborn, the sphincters were either cut or stretched at the outset.

Dr. Dawson, of Cincinnati, generally used the knife freely in such cases, dividing both sphincters. The treatment must be radical.

Dr. Ransohoff thought that the division or paralyzing of the sphincters brought into play the principle essential to success—rest.

Dr. Peck reported a case of apparently permanent paralysis from manual exploration of the rectum.

A New Combined Trocar and Cannula and Aspirating Needle.—A paper with this title, by Dr. H. L. Getz, of Marshalltown, Iowa, was read by title and referred to the Committee on Publication.

A Patient with a Growth in the Temporal Region was shown, and referred to a committee, consisting of Dr. Kinloch, Dr. Dawson, and Dr. Warren, for examination. The committee reported that the growth was a fibrous tumor.

Autoplasty, with Cases, was the title of the next paper, in which several very interesting cases were reported.

Several papers were then read by title and referred to the Committee on Publication, and the Section adjourned.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting of March 25, 1885.

The Treatment of Gonorrhœa.—Dr. J. William White read the following paper:

This is a continuation of the discussion of the subject which was considered one year ago, when I had the pleasure of opening the debate on the general subject of gonorrhœa. At that time the subject of treatment was not touched upon. I should like to say in the beginning that I have no idea that I come here to teach, but rather to learn, as has always been my experience when I have come to these meetings. This is especially true in considering a disease which is so common that every gentleman present has undoubtedly had frequent opportunities of studying it, and doubtless has well-matured ideas of treatment.

In taking up the treatment of gonorrhœa systematically, it may be divided into the prophylactic, the so-called abortive, and the curative. The familiar methods of prophylaxis, and I am speaking more particularly in regard to the disease as it occurs in the male, are the use of a cover during suspicious intercourse, immediate ablution and immediate urination, and are so well known and, at the least, so harmless, that it is hardly worth while to allude to them.

The use of preventive injections is so widespread among certain classes that it will be well to say a few words in regard to them. There are certain injections, especially those of a disinfectant character, which have a great reputation among the laity. The chief of these are carbolic acid in solutions of various strengths, Labarraque's solution, phénol sodique, dilute lead-water, Monsel's solution, and some preparations of iodine. I have known the glycerole of iodine to be used. In so far as these injections contribute to cleanliness, they are useful, but all the good derived is counterbalanced by the unwarranted feeling of security which their use affords. They are generally prescribed by non-professionals. Men about town carry these prescriptions with them, and hand them from friend to friend. They are often used of improper strength, and may become positively harmful, so that an irritative becomes developed into an inflammatory condition, and a true case of urethritis may be excited. They are, therefore, not to be encouraged by the regular profession.

The abortive treatment consists in the use immediately after the appearance of the first symptom of some irritative injection, which is intended to substitute for the so-called specific inflammation a simple inflammation, which is supposed to run a milder course, and to be more amenable to treatment. I do not believe that there is any sufficient evidence, either theoretical or clinical, to show that they accomplish this object. The favorite injection for this purpose is nitrate of silver, either in strong solution, which is injected and retained for a few minutes, or a weaker when it is thrown in from every fifteen minutes to every hour, until it returns tinged with blood, when it is supposed to have excited sufficient inflammation. Those who were present one year ago will remember that my views in regard to the non-specificity of gonorrhœa are very positive. I have never seen any conclusive evidence that there was any specific character about gonorrhœa. I am, of course, therefore not a believer in abortive injections. On the other hand, I am perfectly aware that different cases run a different course, which it is not possible to determine at the first visit.

Gonorrhœa, as studied clinically, may, I think, be divided into three distinct and easily recognizable varieties. First, the irritative or abortive, which rarely progresses to any serious extent; there are simply a little redness and pouting of the meatus, slight discharge, and a little tenderness on urination, which subsides without treatment. Second, the subacute or catarrhal gonorrhœa, in which the symptoms progress to a more marked degree, the discharge grows profuse, there is some pain on urination, etc., but much less than in the third or acute inflammatory variety, in which all the symptoms are much more marked and serious. At the first visit, these three classes are often indistinguishable. You can not say whether you are dealing with a case which will subside without treatment, or with a case that will be long and protracted, or with one intermediate between these two. Consequently, if a powerful injection is used, there is a risk of converting a simple case into one as severe as follows any acute infectious affection. Lebert, the writer of the article in von Ziemssen's "Encyclopædia" on this subject, who is an ardent advocate of the specific nature of gonorrhœa, is compelled to admit that, although theoretically this treatment seems to be indicated, as a matter of fact, he has seen such severe phlegmonous inflammation and such dangerous symptoms follow the use of "abortive" injections that he does not recommend them. As this treatment is still used by some, and is not discountenanced by many of the text-books, I have thought proper to give this amount of time to it, and to say definitely that I see no reason for employing it.

This brings us to the curative treatment, which I have found, and I suppose that most others can say the same, to be more or less unsatisfactory. Dr. Maury used to say that, of all cases that came to him, there were none in which he had so much hesitation in giving a definite prognosis, either as to time of cure or freedom from complications, as gonorrhœa. I suppose this has been the experience of others who have seen many of these cases. I do think, however, that, with very careful attention to details, a great deal of success can be secured which otherwise would be lacking, and that many complications can be avoided.

To go into detail, and to base treatment on rational grounds, it is necessary to consider the anatomical and physiological characters of the parts affected, and these explain why it is that treatment is so unsatisfactory. We must remember that the inflammation affects a long, narrow, and sinuous canal, whose sides during the intervals between urinations are in contact; that through this canal passes a fluid which is liable to various disturbances, from cold, indigestion, and other causes, and which is always more or less irritating; that this canal is always subject to intense congestion from sexual stimulation; that it always has a disproportionately large blood supply, which predisposes to inflammatory conditions and favors their continuance when once excited; that it lies in loose, spongy tissue, which gives very little extra-vascular support to the vessels. These conditions react one upon the other. The period of congestion during erection not only favors inflammation, but the inflammatory condition predisposes to erection. If we consider these facts in connection with the excessive nerve supply to the parts involved, it can be readily understood why gonorrhœa is unsatisfactory in its treatment and is apt to be prolonged in its course or delayed by complications, and, in giving advice in any case of acute gonorrhœa, it is well to bear these conditions in mind.

For example, when a patient with acute inflammatory urethritis pays his first visit, it would be proper, remembering that the part is subject to congestion from erection, to warn the patient against sexual stimulation, against lascivious thoughts, against coming in contact with women, against subjecting himself in any way to sexual excitement. It is worth while to dwell upon this physiological rest, which is just as important here as it is in the treatment of any other form of inflammation.

It should also be remembered that the pendulous position of the organ favors gravitation of blood. It is, however, rarely possible to get a patient with acute gonorrhœa to go to bed. If the patient can be induced to assume a recumbent position, with the hips elevated, on a hair pillow, as much will have been done toward effecting a cure and avoiding complication as can be accomplished by the use of any drugs. The value of this is seen in hospital practice. Hospital gonorrhœas are, on the average, more amenable to treatment, run a shorter course, and have fewer complications than cases in private practice. The reason of this is that such patients are put to bed and given the inestimable advantage of rest in the recumbent position. If the patient can not give up his business or does not dare to, for purposes of concealment, there is a positive unfavorable influence at work. The patient is then to take all the rest in his power, and should be advised to walk instead of running, and ride instead of walking, to sit instead of standing, and to lie down with the hips elevated whenever it is possible.

In order to overcome the irritating character of the urine, strict rules in regard to eating and drinking should be given. I think that the very best diet in the earliest stages is a skim-milk diet. Patients will often, or usually, object to such a radical measure, on the grounds of concealment, and it is often impossible to get them to adopt such a strict diet. We should then endeavor to approach as near as possible to this diet. Salad-dressings, mustard, vinegar, salt, pepper, and asparagus are to be particularly avoided. Everything which has a stimulating effect on the genito-urinary apparatus is to be excluded. The diet should consist chiefly of milk and farinaceous articles. The free use of diluent drinks should be encouraged, and plain water is as valuable as any. I direct these patients to drink, if possible, three or four quarts of water daily. When this is done, two or three things are accomplished. The water acts as a mild laxative, it acts as a diluent to the urine, it reduces the appetite, and renders the limited diet more easy of observance. With the idea of promoting the watery character of the urine and reducing its irritating properties, an alkaline diuretic, as bromide of potassium with acetate of potassium in neutral mixture, combined with a few drops of tincture of aconite and of belladonna, may be used.

In addition to the above directions, I usually confine myself at the first visit to ordering a proper dressing. Patients, particularly with their first attack, usually come with cumbersome, warm dressings tied around the organ with a string, or with some of the rubber covers often sold for this purpose. These dressings act as poultices, keep the organ warm and moist, and favor the flow of blood to the part. The best dressing in any particular case depends on the character of the foreskin. If it is long and pendulous, a little piece of absorbent cotton may be placed over the meatus and held in place by drawing the foreskin over it. If the foreskin only half covers the glans, a piece of old linen or patent lint, three inches square, may be taken and a hole cut in its center; the linen is then slipped over the glans and held in position by drawing the foreskin forward; the ends are brought in front of the meatus, and, if the little squares of linen are changed frequently enough, they protect the skin from the discharges. If there is no foreskin, the best dressing is either an old stocking pinned to the under-shirt or a bag of muslin.

I confine myself to this treatment for one week or ten days. I used to begin injections early, and this is often urged by patients. The more carefully I have observed cases, the more convinced I have been that it is a mistake to begin injections before the height of the inflammatory action has subsided.

It may, during this period, be necessary to give something to relieve certain symptoms, chief among which are ardor urinæ, chordee, and frequent urination, which are often combined and are frequently very troublesome. For the relief of the ardor urinæ, I push the diuretic mixture already described, instead of giving it five or six times a day, giving it every hour or two and continuing it through the night. If there is tumefaction, I direct that the organ be wrapped in lead-water and laudanum, warm or cold as is preferred, and that urination shall be performed in a cup of hot water. This sometimes gives extraordinary relief. I am unable to give a satisfactory explanation for this result; one theory is that it acts by equalizing the circulation of blood in the inflamed organ, the blood being drawn from the congested urethra to the surface, and thus lessening the swelling of the mucous membrane and affording easier and less painful passage to the stream of urine. Whatever the explanation may be, the fact remains that in two or three cases out of every five great relief is afforded by urinating in a hot bath or in a vessel containing water as hot as can be borne. Sometimes where the symptoms have been very severe, and these measures have failed, it has seemed proper to try demulcent injections, and I have used a mucilage of acacia, or of sassafras, or a mixture of glycerin and water. First stripping the urethra gently, two or three drachms of one or other of these mixtures have been injected. I always fear, however, that these injections may carry the irritating pus into the deeper parts and in only a few cases has it been so useful as to warrant its employment. I have lately tried cocaine under these circumstances, but not in a sufficient number of cases to warrant a positive opinion; in some it seemed to fail altogether, while in one or two it appeared to aggravate the condition. In others it gave decided relief. Whether these differences were due to differences in the preparations or in the conditions present, I am unable to say, but what we have heard lately in regard to the therapeutic effects of cocaine would certainly lead us to think that it ought to be useful in this condition.

Chordee is another symptom which occurs at this stage, and is most troublesome and annoying. Many remedies for its relief have been recommended, among which the only ones which I think worth mentioning are, opium in combination with camphor in the form of a suppository, containing half a grain of the aqueous extract of opium or one grain of powdered opium and three grains of camphor, at bed-time; opium alone in the same dose (and I am not convinced that the camphor is very effective); lupulin, in fifteen- to twenty-grain doses; tincture of gelsemium in ten- or fifteen-drop doses every time the patient awakens with chordee; and, finally, bromide of potassium, which is the best of all. This seems to have fallen into undeserved disrepute. Bromide of potassium is more efficient in preventing erection than any of the other drugs which I have mentioned. When a patient complains of chordee, I usually give the following directions: I tell him to try and secure his daily stool at bed-time instead of in the morning, and, if necessary, to take a laxative, as some mineral water, during the afternoon; I tell him to use a hard mattress, to sleep in a cool room under light bedclothing, and to avoid sexual thoughts; I then give thirty-grain powders of bromide of potassium, with directions to take one during the afternoon, one after supper, and one at bed-time, and to keep one dissolved at his bedside, and to take this if awakened at night with chordee. Of course, if this were continued for any length of time, there would be symptoms of bromism. I have never seen anything except anorexia (which is not an unmixed evil), drowsiness, and slight disturbance of the digestive tract. Bromide of potassium is indicated, for a number of reasons, in inflammatory gonorrhœa. It is an alkali, an antaphrodisiac, and an arterial sedative, so that, apart from the symptom chordee, I am in the almost invariable habit of using bromide of potassium in the acute stage of inflammatory gonorrhœa.

As I have said, I wait for the subsidence of inflammatory swelling before using injections. When the patient reports that he has less pain in urination, fewer painful erections, and I see that the discharge is more watery and lighter in color, I then think of the use of injections, beginning these with some caution. At first I usually employ a mixture of lead-water and laudanum, or the watery extract of opium, sometimes with a little tincture of aconite or belladonna, or both, and watch the effect. Of late I have sometimes added cocaine. I order these injections, as I do all others, to be used in such strength as to not give more than a slight tingling or smarting. I think it better to discard them altogether if they excite severe pain. The injection of lead-water and laudanum I use for three or four days, sometimes for a week, and pass from it to injections containing an insoluble sediment, which serves to protect the urethra from the stream of urine, and to support the dilated vessels by its mechanical and constricting effect. For a number of years I used most frequently subnitrate of bismuth; this, however, sometimes set up severe inflammation. It was suggested to me at a meeting of this society, and, I think, by Dr. Leffmann, that the subnitrate of bismuth was crystalline, and that the presence of crystals might sometimes prove irritating, but that the subcarbonate, which is an amorphous powder, was not open to this objection. I have used this latter drug for some time, and I think with better results. The injection may contain the subcarbonate or subnitrate of bismuth, sulphate of zinc and acetate of lead, in which double decomposition takes place; or oxide of zinc, acetate of zinc and tannin, which precipitates the tannate of zinc; kaolin, or finely pulverized earth of any sort, made into paste with water. Any of these answers an admirable purpose at this stage.

After using these for a few days, I tell the patient to stop them for twenty-four hours. If the discharge still persists, I usually employ a stronger injection, which is often acetate of zinc, combined with laudanum, dilute hydrocyanic acid, morphine, or, as now seems especially appropriate, with cocaine if there is pain. Sulphate and acetate of zinc are the two drugs which I consider of the greatest value in this subsiding stage of gonorrhœa.

About the time that the first injection of lead-water and audanum is given, it is usually good practice to put the patient on the so-called anti-blennorrhagics—the only ones which I use being cubebs, copaiba, and oil of sandalwood. Kava-kava, which was strongly recommended by Dupuy, I have tried, but never succeeded in getting good results. Balsam of gurjun has been recommended. I have tried various preparations of it, but it is exceedingly unpleasant, irritates the digestive tract, and in my hands has not given good results. Cubebs, copaiba, and oil of sandalwood, these being the three drugs which I usually substitute for the alkaline diuretic mixture, may be given in emulsion at first, in order to continue the bromide of potassium—giving, for example, bromide of potassium, oleo-resin of cubebs, and oil of sassafras, made into an emulsion with gum arabic and water. In order to save time, I have called this mixture mistura cubebæ, the formula of which I had published in the "Druggist's Circular," so that the mixture could be put up under that name. After the pain has subsided, I give cubebs and copaiba in capsules. If the patient goes to a reliable druggist, this is the best way to give these drugs. In regard to sandalwood I have some doubts. I think that as good results are not obtained from capsules of sandalwood-oil as with sandalwood in other ways; this is possibly due to the use of an inferior oil in the capsules. There is a commercial oil which has not the beneficial effects of the pure oil; the commercial oil is dark instead of having the amber color of the pure oil, and is more irritating to the digestive tract. Although I prescribe capsules of copaiba and cubebs, I prefer, therefore, to order sandalwood in quantity, and direct the patient to take ten drops on sugar, three or four times daily, usually after meals and at bed-time. This is usually the last prescription for internal remedies that it is necessary to give.

An ordinary case, running its course without complications, will terminate in from three weeks to a month, which I consider as good an average as may be hoped for from any method of treatment of gonorrhœa. Much shorter periods are noted from various forms of treatment, but I confess that I look on these with more or less doubt. They are either selected cases, or colored by the imagination and wishes of the reporter. I have had large opportunities, and have experimented cautiously, but faithfully, with the various methods of treatment reported; I have tried the so-called antiseptic treatment recommended by Cheyne; the injection of boracic acid as advocated by Hyndman, of Cincinnati; I have tried Bauer's so-called "rational" treatment (in fact I had used it before he advocated it), but never with the results alleged by the respective authors of these methods. I have finally settled down to the routine treatment which I have just described.

In certain cases, in spite of treatment, the urethral discharge will continue, and these are the cases which give both the patient and practitioner much annoyance. These, like the cases of gonorrhœa, may be divided into three classes, urethral catarrh, chronic gonorrhœa, and gleet. Most of the cases of chronic urethral discharge will come under one or other of these heads.

Patients will sometimes return after the subsidence of the acute symptoms of gonorrhœa, complaining that the discharge has not ceased. If the cases be carefully examined, it will be found that they have at most a drop of watery fluid in the morning, or once or twice a day. There will be little or no pain on urination. They are often persons inclined to be hypochondriacal, and to pay too much attention to their sexual apparatus, and it will be found frequently that the trouble is really due to lack of tone in the capillaries of the mucous membrane of the urethra, and requires very little treatment. If we pass from one injection to another, and give internal remedies of different kinds, the patient's attention will be kept on his condition, and the case may continue under care for weeks. These are the cases in which we hear of marvelous homœopathic cures. The patient leaves the surgeon and passes to the homœopathist, where he gets practically no treatment; the *vis medicatrix naturæ* is given an opportunity, the patient recovers, and homœopathy gets the credit. In these cases I give a little good advice; if the patient can afford it, send him to Atlantic City; order a few drops of the syrup of the iodide of iron, a good generous diet, with a little claret or Burgundy at dinner, quinine at bed-time, and, if the season is suitable, salt bathing. Under this treatment a cure will often be effected in a few weeks, or in less time. The chief difficulty in such cases is to retain the patient's confidence.

The second class, that of chronic gonorrhœa, requires persistent treatment. The diagnosis between chronic gonorrhœa and gleet should be carefully made. In chronic gonorrhœa the discharge continues without any intermission between it and the acute affection; this discharge is aggravated on slight provocation, by indigestion, by sexual excess, or more particularly by ungratified sexual excitement, by alcoholic excess, cold, and over-exertion—all these increase it often, until it is so severe as to simulate acute inflammatory gonorrhœa. It is attended with more or less localized pain along the urethra and during urination; the discharge is creamy, and careful investigation with bulbous bougies will show a point of marked tenderness, the bougie bringing away pus, perhaps streaked or tinged with blood.

This condition, I think, requires for its treatment the use of localized injection, with the employment of the syringe known as the prostatic syringe. The point of trouble is usually a superficial ulceration, or a granular urethritis. The patient is shown how far to introduce the syringe. The most useful injection is, I think, nitrate of silver, using it of the strength of one fourth to one half a grain to the ounce, gradually increasing the strength, and using from a drachm to a drachm and a half at each injection, slowly deposited at the affected spot. If this fails, there may be associated with it the gentle use of full-sized urethral instruments, either steel or rubber. I have usually employed Thompson's sounds. These must be used with care If they aggravate the condition, they should not be again employed until the inflammation has assumed its chronic character.

The third variety is gleet, by which I mean a condition in which there is a milky or milk-and-watery discharge from the urethra, without distinct localized pain. In this there is usually a considerable interval between the date of the gonorrhœa and the reappearance of the discharge. It is often associated with more or less frequent urination and hypogastric and lumbar pains. It is usually dependent upon the presence of a stricture, which is frequently a so-called "stricture of large caliber." The treatment of the discharge depends upon that of the stricture, to consider which would lead us beyond the limits of our time.

The notice which was sent out announced the subject for the evening as the Treatment of Gonorrhœa and its Sequelæ, but, with the permission of the society, I shall take the opportunity of considering the treatment of the sequelæ on another occasion.

Before I sit down I wish to mention a point on which I should like to have the opinion of the society, and that is in regard to the use in chronic urethral troubles of the so-called soluble bougies, particularly with reference to those made by Foote & Swift under the name of vectors. I have given them a careful trial, but am unable as yet to pronounce an absolutely positive opinion. Theoretically, they certainly should be useful, but where I have expected good effects they have often seemed to be irritating. They can not be diluted as an injection can. I have had some of these made with cocaine, and have used them before performing urethral operations, such as the removal of urethral polypi and internal urethrotomy. I find that simply dipping them in water does not permit of their ready entrance into the urethra, and, if they are oiled, one of the advantages alleged—that the remedy comes directly in contact with the tissue—is destroyed. It seems to me, however, that there are possibilities of excellent results from their employment, and I should like to have the experience of the society.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of April 20, 1885.

The President, Dr. Charles A. Leale, in the Chair.

Transactions of the New York State Medical Association.—The President gave notice that a large volume, over six hundred pages, containing the report of the recent meeting of the New York State Medical Association, edited by Dr. Austin Flint, Jr., could now be had of the publishers, Messrs. D. Appleton & Co.; price, to members, $2.50; to non-members, $5.

Incontinence of Urine in Children.—Dr. J. Lewis Smith read the paper of the evening, on the subject of enuresis in children. He preferred the term enuresis to incontinence. The condition existed in boys more frequently than in girls, and the incontinence was more common at night than during the day. The author briefly described the anatomy of the bladder, and the structure of the sphincter vesicæ and the compressor urethræ, the two sphincters which had control over urination. The muscular fibers of the bladder became circular and increased in numbers as the neck was reached, forming a sphincter of unstriped muscular fibers. The compressor urethræ, being composed of striped muscular fibers, was under the control of the will. A brief description was also given of the voluntary, the involuntary, and the reflex nerve-supply.

Concerning the ætiology, a common cause of enuresis was acidity of the urine with decomposition of the urates and excitability of the muscular coat. Other causes were vesical calculi and over-sensitiveness of the muscular coat of the bladder, the fault lying in the bladder itself. Indeed, this seemed to be the most common cause of enuresis in children, and was, doubtless, that form for which Trousseau strongly recommended the use of belladonna. From the fact that belladonna relieved so large a proportion of the cases we might infer that irritability of the muscular coat was the cause of the incontinence, since this drug diminished its sensitiveness. Another cause was atony of the sphincter vesicæ. Ordinarily children troubled with incontinence from this cause were in poor general health. There might at the same time be incontinence of fæces. Other causes of enuresis were reflex irritation from phimosis, a collection of smegma under the prepuce, ascarides in the rectum, etc. Habit might be a cause, as some patients were able to control the bladder during sleep after a strong moral impression. A further cause would be found in malformations of the bladder or or its appendages, and a cure in these cases might be found very difficult if not impossible.

The prognosis depended upon the cause. Most cases could be cured by appropriate remedies. The supposition that a cure would take place with puberty or marriage was often well founded, the change in the physical and mental state of the individual producing this effect.

Since the most common cause of enuresis consisted in irritability of the bladder, the fault lying with the bladder itself or with the urine, the urine should be rendered as bland as possible, and this was best accomplished by making it neutral. Excessive acidity of the urine being the cause, the patient should receive from three to five drops of liquor potassæ three to six times a day in a wineglassful of gum-water, and this should be continued in such doses as would maintain the urine in a neutral state, as indicated by litmus-paper. Belladonna diminished the excitability of the bladder. In this country the tincture was usually employed, while in Europe it was common to give the extract, which was a very convenient preparation. Five drops of the tincture might be given morning and evening to a child five years of age, the dose being increased one drop every second day, the physiological effect being watched. It was best to continue it for several weeks in doses found to be efficient, and then diminish the dose gradually. Trousseau gave either belladonna or aconite. If the cause was an unusual amount of urine, the liquid ingesta should be restricted. If the difficulty was due to diabetes or nephritis, the enuresis, although a troublesome symptom, was comparatively unimportant, and the disease which caused it required particular attention. If there was vesical calculus, it could easily be detected by the sound, crushed, and removed. The physician should always examine the parts contiguous to the bladder, and, if the enuresis was found to be due to reflex irritation, the cause of the reflex irritation should be removed. Smegma under a long prepuce should be removed; in phimosis, circumcision should be performed; if there was vulvitis or ascarides, they should be treated. If the enuresis was found to be due to paresis of the sphincter vesicæ, the proper remedies differed materially in their action from belladonna. Nux vomica, strychnine, or ergot was then indicated. The author thought that strychnine, while a dangerous remedy, could be employed in small doses with comparative safety if the patient was over five years of age. There were many remedies which had been employed in enuresis, but many of them had gone out of use. Cantharides had not been employed much of late years.

Local treatment had in some cases been attended with a certain degree of success. The bladder and the urethra had been cauterized with some benefit, at least so long as the soreness remained. Baths and douches of cold water had also been employed, with some appearance of success. Finally, in some cases, the advice given by Trousseau might be adopted, namely, that the patient should resist longer than usual the disposition to pass water during the day, and thus render the bladder tolerant.

Dr. William Detmold thought the word incontinence, applied to cases of enuresis, was a misnomer. The child could retain its urine, but the habit of passing it in bed was almost irresistible. Nearly all remedies would fail at times. He was disposed to regard it as chiefly a vicious habit, to be cured by strong moral influence. The nurse should wake the child every half-hour or hour during the night, and make it sit on a vessel until it emptied its bladder completely. After this had been continued for a few weeks, the child would give up the habit. Often there was a voluptuous sensation connected with the habit, and the patient should be made to feel his shame. The habit was not confined to children, but frequently belonged to soldiers and other grown persons. In Germany they made the child stand up in a corner, with the wet sheet over its head.

Dr. J. W. S. Gouley could not accept entirely the anatomy and physiology as given by the author. He thought it had long been demonstrated that there was no anatomical sphincter of the bladder, but there was quite a difference between an anatomical and a physiological sphincter. There was no sphincter, for instance, which bore the slightest resemblance to the sphincter ani. Regarding the compressor urethræ, he thought it simply impossible for it to control the stream of urine after it had emerged from the bladder. On the contrary, it had something to do with the expulsion of the urine. He agreed with Dr. Detmold that the term incontinence of urine, as applied to children who wet their bed, was incorrect. He would adopt a classification from the French: those who slept so soundly that the sensation of urinating failed to awaken them; those who dreamed that they were urinating in a vessel; and those who from fear did not rise to urinate. These young subjects, according to Dr. Gouley's observation, had a good deal of urine in the bladder. A frequent cause of enuresis was either lithuria or polyuria. In the latter class the bladder might be emptied more than once during the night, considerable urine passing away. The patients found it necessary also to urinate several times during the day. The subject was sometimes twenty-five or thirty years of age. To whip the child would be to increase the tendency to pass the urine in bed, for fear would make even a dog empty its bladder. The trouble would often be likely to continue indefinitely unless some decided therapeutic measures were adopted. He had known families of children to be the subjects of the affection, and in some cases, perhaps, the tendency was hereditary. He did not agree with Dr. Smith that the urine should be made as bland as tepid water, because pure water would increase the irritability of the bladder. He would not use belladonna in the doses recommended by Trousseau. As to the treatment of cases due to vesical calculi, he regarded lithotomy as safer than lithotrity in children under ten years of age. He could not conceive of a case in which the cautery would be applicable. The passage of the sound for two or three days, and then every second or third day, had a beneficial influence. He recommended the tincture of chloride of iron.

Dr. P. B. Porter spoke of the great tolerance of belladonna which children manifested. He had employed chloral in a few cases, in some with benefit; in other cases it seemed to have no controlling effect over the enuresis.

Dr. E. G. Janeway corroborated the statement of Dr. Porter regarding the insusceptibility of children to belladonna, or their ability to take large and repeated doses without constitutional symptoms arising. The same was true of atropine, and of some other drugs. The dose should be regulated according to the peculiarities of individual cases. In some cases the cause seemed to be a true reflex irritation which excited an immediate desire to pass the urine. He had found in a few cases that a combination of iron, ergot, and belladonna produced the best result. In some instances the passage of the urine in bed was due to a nocturnal epileptic fit.

Dr. C. S. Wood had found two distinct classes of children troubled with enuresis. The treatment suitable for the one class was useless in the other. The first class included children of weakly, strumous constitution, with unhygienic surroundings. Here the syrup of the iodide of iron was indicated, in conjunction with cod-liver oil and good food. The other class included the strong, healthy children, who played much out-of-doors. Here he gave belladonna, perhaps adding chloral. Phimosis, if present, should be relieved. Moral influence would cure some.

Dr. F. V. White mentioned an instance which seemed to support the view that enuresis might be hereditary. He thought the rule that like produced like might apply here.

Dr. T. R. Varick thought the discussion had plainly shown that here, as in other affections, no routine form of treatment could be adopted. We were obliged to take the cause into consideration. If we recognized reflex irritation, it should be removed. He narrated some cases in support of the view that nocturnal incontinence of urine might be due to phimosis, ascarides in the rectum, etc. There was one form of treatment which perhaps might be an old woman's notion, and he was not certain but the old lady was right. It was based upon the idea that the child sometimes wet the bed only when lying in a particular position, as on the back. Fasten a spool on the back, which would cause the child pain when it lay on its back, and it would wake and be warned of what was about to take place. Benefit was derived from tincture of cantharides in connection with iron.

Dr. SMITH, in closing the discussion, reviewed some of the points brought out in the paper, and said, concerning the anatomy and physiology of the bladder and the compressor urethræ, that he had given the views of recent observers.

Occlusion of the Vermiform Appendix.—Dr. JANEWAY presented a vermiform appendix with its opening into the cæcum occluded, which had caused an increase in size to an inch and a half in circumference. Its contents had not yet been examined. The cause of the dilatation was not recognized; it had given rise to no known symptoms. Death took place from a condition unconnected with the tumor of the appendix. This was the third case which he had seen of dilatation of the vermiform appendix and occlusion of its orifice, in one of the cases the tumor having been as large as a child's head. The young lady had also atresia of the external orifice of the uterus, with the formation of small cysts in the mucous membrane, due to the obstruction.

Colloid Cancer of the Stomach.—Dr. JANEWAY also presented the stomach of a patient fifty years of age who had had symptoms of cancer for two years and a half. The disease involved all the coats of the stomach throughout the entire surface, having apparently extended from the lesser curvature. The principal feature was pain, sometimes vomiting, but the ejecta contained no blood, and no gross ulcer was found post mortem.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of April 27, 1885.

The President, Dr. DANIEL LEWIS, in the Chair.

The Influence of Sea-voyaging upon the Genital Functions in Women.—Dr. J. A. IRWIN read a paper on this subject, based principally upon observation during several years that he had acted as a ship-surgeon. It had long been observed that serious disturbances of these functions were liable to occur during a voyage, and the fact that travel between European and American ports was becoming so common rendered the subject an important one for study. But, notwithstanding its importance, but little had been written upon it, and for that reason it was the more difficult for any one observer to reach practical conclusions. During his service at sea not fewer than fifteen thousand persons had come under his care as physician. Among this number of passengers there were 104 pregnancies, 11 parturitions, 3 miscarriages, and 451 menstruations or missed periods in women among whom the function was usually normal, and in whom he had the opportunity to contrast the condition with that on land.

First the author considered the effect of a sea-voyage upon menstruation. Of the 451 observations upon the menstrual periods of women while at sea, 288 were made under his instructions by a stewardess, and, being replies received to formal questions, he thought they could be relied upon as being accurate. All of the 288 women were supposed not to be pregnant; menstruation was normal previous to the voyage in all; 21 of them passed the period while on board without menstruating; 43 menstruated before the period; 224 menstruated at the proper period; 23 complained of unusual pain, and in a few instances there was increased or diminished flow, while 201 of the women noticed absolutely nothing unusual which could be attributed to the voyage. Of Dr. Irwin's own 163 observations among women of a higher social standing, 13 passed the period on board without menstruating, of whom 11 experienced more or less molimen; 51 menstruated before the period, and 99 at the period. Of these, 47 complained of unusual discomfort, accompanied in 37 cases with increased and prolonged flow, and in 2 with diminished discharge. Of the 13 who passed the period, 3 were still on board at the following period; one of the three then menstruated almost normally, in one the result was not known, and in the other the flow was increased in quantity and prolonged in duration. But she subsequently experienced complete amenorrhœa during two periods.

From these figures it would be seen that disturbance of the menstrual function at sea was of frequent occurrence. As to the explanation, it offered a question difficult to solve, and the more so because of the indefinite and conflicting views entertained regarding the real nature of the menstrual function. Whatever might be the view held regarding the nature of menstruation, Dr. Irwin thought it was evident there was during a sea-voyage a tendency to increased pelvic congestion, which would offer an explanation for the phenomena usually observed regarding the menstrual function. As to the special conditions in an ocean voyage which might be supposed to exercise an influence upon the female habit, they might be classed under three heads; namely, psychical influences, dependent upon the novelty of the situation and the apprehension of danger; second, aërial, consisting in some special quality of sea-atmosphere; and, third, motional, as a direct result of the movement of the vessel.

There could be no question that strong emotional impressions had some influence upon the menstrual function, but this influence was less marked than some believed in the class of cases under consideration. That psychical influences did play some part in the disturbances of menstruation was quite probable in cases of sudden arrest of the flow in women who embarked during a period. But many women who suffered most severely during the sea-voyage had not the slightest fear, and would thoroughly enjoy sea-life but for its unpleasant effects in this direction.

The frequent dysmenorrhœa and the usual intensification of the symptoms of local pelvic disease were results which we should expect *a priori* from over-congestion of the pelvic organs. It would be seen that a sea-voyage might disturb the menstrual habit in every conceivable form—in its periodicity, duration, amount, and discomfort. The particular effect most likely to occur would be determined by the constitutional habit of the individual, the relation of the last flow to the date of embarkation, the length of the voyage, and fortuitous conditions. With regard to periodicity, the most constant change was a premature return of the flow, and this return might take place at any time during the inter-menstrual epoch. If a woman went on a voyage shortly after the cessation of the flow, there would be liability to a renewal of the discharge or of the peculiar symptoms attending a period, and it might lead to suppressed menstruation at the next time it should come on. Complete and passive amenorrhœa for one or more periods was a frequent after-result of the transatlantic voyage.

Of the effects of a sea-voyage upon menstruation, none was more constant or unfortunate than an aggravation of whatever discomfort was ordinarily associated with that process. In some women painful menstruation was experienced for the first time at sea, and it might be accepted as almost universally true that in every type of dysmenorrhœa the discomfort was increased, certainly at the first, and usually at subsequent periods at sea. If there were any exceptions to this rule, they would be found in certain neurotic states. Dr. Irwin then offered some possible explanations of the aggravation of dysmenorrhœa during a voyage, reasoning from the theoretical explanations which had been offered regarding the menstrual process. Puberty was sometimes hastened by a voyage at sea, and the flow sometimes recurred after the climacteric period. The aphrodisiac influence of a sea-voyage was generally recognized, and would be expected to occur under conditions which increased the pelvic blood supply.

An ocean voyage should be regarded as a potent emmenagogue, having, in addition to the special quality, a well marked tonic, alterative, and sedative influence. But it should no longer be prescribed empirically, but with a definite object in view. There were many cases in which its local as well as its constitutional influences would be indicated. For instance, in certain conditions of chloro-anæmia, amenorrhœa with pain, and retarded sexual maturity, certain forms of leucorrhœa and uterine hysteria, and lack of development in school-girls, a typical case of which had been described by Dr. Emmet. It would, of course, be understood that upon the large majority of women who crossed the ocean the sea influence was too slight and too transient to be considered of serious import. There were, however, many conditions of the uterine organs which, if not positively interdicting a sea-voyage, did demand special prophylaxis and skillful attention on board. Dr. Irwin was inclined to think that almost every form of uterine and ovarian disease became worse while at sea, and he did not think that the possible reactionary beneficial results would justify one in sending such women to sea. Uterine displacements were especially liable to give trouble. The treatment of uterine troubles during ocean transit should be conducted upon general principles.

The influence of sea-voyaging upon gestation was a subject of the greatest importance. The influence of seasickness and the mechanical disturbance of the viscera, and especially of prolonged and violent vomiting, was to cause premature labor and miscarriage. The vomiting of kinetia was not to be compared with that of morning sickness in its effects upon pregnancy; it was more violent and more liable to cause miscarriage. It was the author's opinion that pregnancy, especially during the latter months, predisposed to and aggravated the most distressing features of seasickness.

Another effect of ocean voyages was the perversion or suspension of lactation.

Dr. C. C. Lee's experience in this field had been limited, but, so far as it went, he had not seen an exception to the rule that in consequence of seasickness, or the influence of a voyage at sea upon the nervous system, as described by the author, the pelvic organs became congested, thus increasing whatever tendency existed toward metrorrhagia or menorrhagia. He could recall four or five cases in which patients of his had crossed the ocean at different periods of pregnancy, and none of them had a miscarriage. He had never known amenorrhœic or chlorotic, delicate women to be benefited in the slightest degree by an ocean voyage. On the contrary, he thought that such delicate women were disagreeably affected by the usual short Atlantic voyage. They always became quite seasick, and the voyage did not last sufficiently long for them to overcome that tendency and to derive the benefit which might come from the change of air and condition. Perhaps a long voyage would be a benefit to this class of patients. A voyage at sea, according to his observation, increased the trouble of women who were suffering from displacement of the uterus, or who from habitual congestion of the pelvic organs for any reason were suffering from metrorrhagia and menorrhagia, and this unfavorable effect he believed to be due rather to prostration and exhaustion of the nervous system and relaxation of the muscular system following seasickness than to the influence of sea-air or change of habit and food.

Dr. B. F. Dawson had had only a limited experience in the class of cases treated of in the paper, but in the main he thought he could accept the author's views. In only one case had he been requested to see a woman at sea suffering from alarming menorrhagic flow. In that case the patient had embarked while suffering from grief at the loss of an only daughter. He had also seen three cases of amenorrhœa produced by a sea-voyage, but perhaps his experience was rather unusual in this direction, and the rule as stated by Dr. Irwin was correct, that generally the menstrual flow was increased during a voyage at sea. In the three cases referred to he thought the effect was due to the novelty of the change, to the mental influence, rather than to other causes, for the women were healthy, and did not suffer from seasickness.

Dr. John Dwyer had had considerable experience on board sailing ships about thirty years ago, and knew something about the influence of long voyages. It was not uncommon for mothers to bring their daughters to him to be treated for amenorrhœa during the voyage, but he found that treatment was of little benefit. He noticed at that time, and also during a recent voyage, when he made special inquiry into the subject, that a voyage had a special tendency to excite the sexual desire in all classes of passengers.

Dr. A. M. Jacobus had had occasion to treat a number of girls for amenorrhœa after their arrival from across the Atlantic, and believed that an ordinary effect of a voyage was amenorrhœa lasting from three to nine months. He had not found much benefit from treatment in these cases.

Dr. McLaury, Dr. S. Baruch, Dr. Laurence Johnson, and Dr. E. A. Bracklow testified to the frequency of amenorrhœa produced by a sea-voyage. Dr. Johnson said that it was so common to see this form of amenorrhœa at the Demilt Dispensary that it was customary to enter it in the books as "marine amenorrhœa." The patients were not rendered uncomfortable by the absence of the flow, and, inasmuch as the menses returned within a year, they needed no special treatment.

Dr. G. H. Butler referred to the beneficial influence of a visit to the sea-side in deranged menstruation. In one case a girl, who always suffered from dysmenorrhœa in the city, menstruated regularly and normally while at the sea-side, and it was her custom, therefore, to make her visit at the sea-shore as long as possible. In such cases the influence of a sea-voyage, of course, was not brought to bear.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of April 22, 1885.

The President, Dr. John A. Wyeth, in the Chair.

A Neurosis simulating Scleroderma.—Dr. H. J. Boldt presented a girl, twenty-two years of age, who at the age of fourteen years had noticed a swelling of the left lower extremity. Some years afterward the right lower limb also became involved. While standing or walking the swelling greatly increased, causing pain and lassitude. The patient had been seen by Professor Billroth and other eminent physicians of Vienna, who had failed to make a diagnosis. Dr. Boldt was unable to discover any other trouble than the swelling of the lower limbs throughout their entire extent. There was little or no varicosity. The joints were normal.

The President suggested that the trouble was probably due to a neurosis.

Dr. W. M. Carpenter had seen three or four cases of a similar affection of the limbs, the trouble beginning in one extremity and finally also involving the fellow member. In the case of a girl thirteen or fourteen years of age, the hand and arm became markedly swollen. All of the cases seen by him were in girls. He regarded it as a neurosis, and believed it had been so classed by Dr. Jacobi. The pathology was not definitely known.

Diffuse and Circumscribed Primary Carcinoma of the Liver.—Dr. Waldstein presented a specimen under the microscope, illustrating diffuse primary carcinoma of the liver, also a second specimen consisting of the liver, and illustrating circumscribed primary carcinoma of that organ.

Aneurysm of the Entire Arch of the Aorta.—Dr. Dixon presented a specimen, taken from the body of a longshoreman, forty-seven years of age, who, up to six months before his death, had been in perfect health. He then, while walking along the street, had an attack of vertigo, was taken to Bellevue Hospital unconscious, and lost power in the left side. Seven days later, however, he was able to walk about, and had no return of the paralysis. A few months ago he began to cough, lost appetite, and afterward grew hoarse. The sputa became streaked with blood, and on one occasion a severe hæmorrhage occurred. There was at no time pain over the chest or sore throat. There were signs of a thoracic aneurysm, consisting of a heaving impulse, dullness, murmur, etc. The voice was reduced to a whisper, caused by paresis of the left vocal cord. The patient died suddenly. At the autopsy the brain could not be examined. Both lungs were extensively adherent to the pleura, and were much congested and œdematous. At the base of the left lung was a large collection of blood which had destroyed much of the lung tissue. The heart was hypertrophied. The ascending, transverse, and descending portions of the arch of the aorta were largely dilated, and presented the various stages of atheroma. The points of interest in the case were the large size of the aorta and the very minute opening through which the hæmorrhage had taken place. Why death should have been so sudden was difficult to tell.

The President referred to a case of death from aneurysm of the thoracic aorta in which a very small opening had been worn through at a point of contact with a vertebra. In this case death took place gradually from slow hæmorrhage.

Dr. Thayer alluded to a case of aneurysm of the sinus of Valsalva, with a secondary dilatation of the aorta, which pierced the pericardium and eroded the ribs above. Death took place suddenly, as in Dr. Dixon's case, but no perforation was found.

Pericarditis and Pneumonia.—Dr. Thayer presented the heart and pericardium of a hospital patient in which the chief interest centred in the difficulty of diagnosis. The autopsy revealed evidence in the lungs of a recent pneumonic process which had disappeared. The pericardium contained a large amount of pus, and over the visceral surface was a thick layer of pyogenic membrane. The cardiac region had been examined a number of times during life for the purpose of discovering signs of pericarditis, but the signs were not such as justified a diagnosis of that disease.

Chronic Inflammation of the Middle and Internal Ear.—Dr. L. E. Holt presented a part of the petrous portion of the temporal bone removed from the body of a child four years and a half of age, which had had a discharge from the left ear since the ninth month of age. The discharge had been more or less profuse and continuous. Dr. Holt saw the child only once, which was on a Friday, the day before death. Up to the preceding Wednesday it had been in its usual state of health, the discharge from the ear being free. On that day it became drowsy, the discharge ceased, and there was pain in the ear. On Thursday it was more drowsy, with some headache and slight fever. On Friday the temperature was 101° F., the pulse 120, and the neck drawn slightly back and somewhat rigid. There was slight swelling of the tissues about the external ear, but there was no abscess, and the tissues were not reddened. The child died suddenly the next morning, after having requested to be allowed to urinate. There had been no convulsions and no paralysis. At the autopsy there was found slight pachymeningitis externa, with a cavity in the petrous portion of the left temporal bone containing about a drachm and a half of pus of very foul odor. The ossicles were loosened and there was slight caries. The dura was slightly lifted immediately over the cavity. The brain was apparently normal. The spleen was much enlarged, but there was no sign of septicæmia. The ear affection did not seem sufficient cause for sudden death, nor was the cause very evident. It was recorded, however, as being pulmonary œdema and cardiac failure.

Dr. Carpenter thought it not improbable that the cause of death in Dr. Holt's case was œdema of the lungs. It was not very unusual for patients debilitated from some disease to die suddenly, perhaps after slight exertion, from no other apparent cause than pulmonary œdema.

Dr. Boldt had had two cases of pachymeningitis externa of very limited extent in which death took place suddenly from pulmonary œdema. In one case Dr. Janeway was present at the autopsy, and it was only after careful search that the pachymeningitis externa was discovered. What might be the connection between the cerebral lesion and the œdema of the lungs he was unable to say.

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New Inventions, etc.

NEW INSTRUMENTS OF PRECISION IN ELECTRO-DIAGNOSIS.

By Ambrose L. Ranney, M. D.,

PROFESSOR OF ANATOMY IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; PROFESSOR OF ANATOMY AND OF NERVOUS DISEASES IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT.

I would respectfully call the attention of the profession to some new instruments which I have devised for the purpose of making electro-diagnosis more scientific and accurate. I have named them the "diagnostic key-board" and the "spring electrode."

Heretofore there have been serious defects in the methods commonly employed in determining the muscle and nerve reactions of patients for the purpose of record. These defects have been recognized, but have never been satisfactorily overcome. To be more specific, let us suppose for the sake of illustration that we are called upon to test some special nerve or muscles of a patient afflicted with paralysis upon the left side. The standard of comparison must, of necessity, in every such case be the homologous nerve or muscles of the unaffected side. We are forced to contrast the electrical reactions of nerve and muscle upon the two sides in order to determine the effect of the unilateral paralysis upon such reactions. By such a comparison only can slight alterations be discovered. It is therefore vital to the accuracy of all deductions that the observations made be as free from error as possible, and that the conditions be alike when the contrasted sides of the body are to be separately tested. It has been the custom with neurologists, and is to-day, to perform these tests by placing an indifferent electrode upon a neutral point (the sternum or the nape of the neck), and by placing the other pole upon the *two sides alternately, and as nearly on homologous points as possible.* The inaccuracies which are liable to result from this method are due to one or more of the following causes:

1. The "*motor points*" of the muscles, as well as the points commonly designated in the charts devised by von Ziemssen for the electrization of *special nerve trunks*, vary more or less with individuals; hence it is very important that they be determined with accuracy upon the healthy side as well as on the diseased side before comparisons are made between the electrical reactions of a special nerve or muscle of the two sides.

2. It is essential to accuracy of observation that an electrode *should be fastened immovably* to the nerve point and the various "motor points" of the muscles to be tested. Marking them with a pencil, as suggested by some authors, is but a poor substitute. By many neurologists even the latter precaution is seldom taken in actual practice; the electrode is oftener moved from one side to a corresponding point on the opposite side by guess-work, the operator's eye being his only

guide. It must be apparent to all that this method can not be more than approximately accurate.

3. The nerve trunks or special muscles of opposed limbs must be called into action by *electrical currents of the same strength*, if an accurate comparison is to be made between the contractions produced. Practically, this element of accuracy is disregarded by many observers. They seem to forget that the battery is steadily growing weaker by "polarization" when in use. This may be compensated for if a galvanometer is placed "in circuit," but the precaution is not generally taken, as time is consumed by noting needle deflections at every step.

4. Muscles which have been subjected to excitation in searching for their "motor points," and nerve trunks also, are *altered in their electrical reactions for some little time* after such an excitation. It is important, therefore, that the electrical responses upon either side should take place in a nerve or muscle which is in a normal electrical state, and that the currents employed in the tests should be of as short duration as possible. This is effected by the device which I shall suggest farther on.

5. *The observer should be able to watch closely* the contractions produced on the two sides. It is of great service oftentimes that the two sides be called into action simultaneously. The former can not be done when the observer is leaning over his patient and also holding the electrodes. The latter can be accomplished with a bifurcated cord, but it is a clumsy contrivance, and requires both hands of the observer or an assistant.

To overcome these and some other objections to the methods commonly employed in electro-diagnosis, I have devised two simple attachments to a battery. The first consists of an *insulated spring electrode*, which can be placed over any nerve trunk or motor point, and to which a rheophore may be attached. It is self-retaining, and is adjusted with ease to any part of the body.

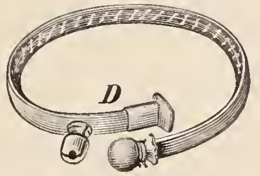

Fig. 1.—The Author's Spring Electrode.—*D*, the binding-post for attaching the rheophore which connects it with the battery, or with the diagnostic key-board when that instrument is employed. The motor point of the electrode is represented as enveloped in chamois-skin. It must be thoroughly dampened in salt-and-water before it is applied to the nerve or muscle to be tested. The other end of the electrode is designed to prevent slipping of the instrument after its proper adjustment.

The second device consists of a *diagnostic key-board*, upon which any number of separate contacts may be made by touching the keys. Each key is in communication with a binding-post to which a rheophore may be fastened.

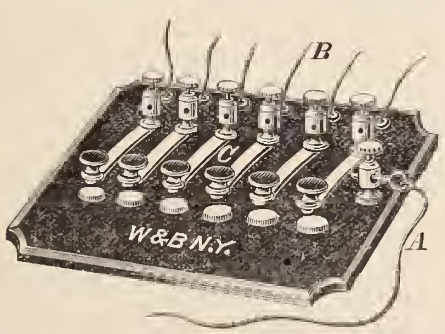

Fig. 2.—The Author's Diagnostic Key-board.—*A*, the rheophore which connects it with one of the binding-posts of a galvanic battery; *B*, rheophores connecting its binding-posts with spring electrodes previously placed upon the body of the patient so as to influence the nerves or muscles to be tested; *C*, buttons and springs which make a circuit to the body of the patient when the knob on the spring is pressed downward so as to impinge upon the button. The number of rheophores which may be employed depends upon the necessities of the case; the cut shows an instrument capable of six.

My method of using these instruments consists in placing the exposed body of my patient at rest upon a couch, so that muscular relaxation is insured. I then apply my spring electrodes to homologous parts of the two sides of the body, after carefully ascertaining the exact seat of the motor points to which I wish to direct the current. Under the metal tips of these electrodes I place a small pad of absorbent cotton wet in salt water, and I then connect each electrode to one of the binding-posts of my diagnostic key-board by means of long rheophores. The rheophores are made long so that tension is not made upon the electrodes, which might displace them, and in order that I may place the key-board upon an adjoining table, close to my battery. Finally, I place a large indifferent electrode upon the sternum of the patient or at the nape of the neck, and connect the two rheophores of my battery respectively to a binding-post of my key-board and to the indifferent electrode in contact with the patient's body. The cuts will illustrate this better than a verbal description. I employ different-colored cords, so as to enable my eye to quickly select the key which acts upon each electrode. I am thus enabled to sit at a table near my battery and, by touching one, two, three, or four keys at a time, to call into action any desired nerve or muscle of the same side or of opposed sides. My eye is otherwise unemployed, and I am thus able to detect the slightest difference in the reactions of the two sides. I am, moreover, sure that the current is of the same strength at both points when the contacts are made simultaneously at the key-board. I know, also, that my electrodes are properly placed and that they are held by a uniform pressure against the surface of the patient. I do not require an assistant, as I can work my battery and the key-board at the same time without aid. I can, moreover, have my case-book by my side and record the observations taken from time to time.

During a course of lectures delivered this year before the class of the Medical Department of the University of Vermont, I taught the action of muscles upon joints, and the physiological functions of the more important nerves, by this method upon the living subject. To my mind, it excels any other method of exhibiting to large audiences many facts which can not be shown upon a cadaver or by a drawing or model; and it impresses their minds more forcibly than a verbal statement, because it reaches them through the instrumentality of the eye. I was able to illustrate the mechanism of facial expression with startling effect by this method. An immobile face can be made to suddenly assume the expression of laughter, despondency, etc., and the individual muscles of any region can be thrown into action without the necessity of the lecturer approaching the man employed for that purpose.

The spring electrode can be made of any size and have any strength of spring; it can have points of any shape attached; it does not interfere with the free action of the muscles beneath it, as a strap does; it does not interfere with the inspection of the part during its use; finally, it is difficult to disturb its adjustment, if properly placed.

I have had these two instruments manufactured for me by Waite & Bartlett, of this city.

156 Madison Avenue, *May 2, 1885.*

Miscellany.

The International Medical Congress.—The original committee of the American Medical Association, charged with the mission of inviting the Congress to hold its next session in this country, consisted of Dr. I. Minis Hays, of Philadelphia; Dr. Lewis A. Sayre, of New York; Dr. Hosmer A. Johnson, of Chicago; Dr. George J. Engelmann, of St. Louis; Dr. J. M. Browne, of the navy; Dr. John S. Billings, of the army; and Dr. Henry F. Campbell, of Georgia. The committee tendered the invitation, and it was accepted, after which the committee effected the preliminary organization that was set forth in our issue of April 4th. At its annual meeting, held last week, the association expressed its dissatisfaction with the committee's work, and resolved to add the following-named gentlemen to the original committee, with power to revise its work: Dr. D. A. Linthicum, of Arkansas; Dr. G. A. Ketchum, of Alabama; Dr. C. Denison, of Colorado; Dr. R. B. Cole, of California; Dr. A. Y. P. Garnett, of the District of Columbia; Dr. ——, of Connecticut; Dr. T. P. Bush, of Delaware; Dr. R. D. Murray, of Florida; Dr. A. R. Battey, of Georgia; Dr. ——, of Iowa; Dr. F. W. Bearm, of Indiana; Dr. E. P. Cook, of Illinois; Dr. D. W. Stormont, of Kansas; Dr. J. W. Dupre, of Louisiana; Dr. W. H. Wathen, of Kentucky; Dr. A. H. Wilson, of Massachusetts; Dr. J. S. Lynch, of Maryland; Dr. A. R. Smart, of Michigan; Dr. S. C. Gordon, of Maine; Dr. E. French, of Minnesota; Dr. F. Essig, of Missouri; Dr. J. M. Taylor, of Mississippi; Dr. J. W. Harrison, of New Hampshire; Dr. W. Pierson, of New Jersey; Dr. E. Eliot, of New York; Dr. ——, of North Carolina; Dr. R. C. More, of Nebraska; Dr. J. V. Shoemaker, of Pennsylvania; Dr. X. C. Scott, of Ohio; Dr. R. A. Kinloch, of South Carolina; Dr. W. E. Anthony, of Rhode Island; Dr. J. W. McLaughlin, of Texas; Dr. F. L. Sina, of Tennessee; Dr. M. C. Dabney, of Virginia; Dr. ——, of Vermont; Dr. N. Senn, of Wisconsin; Dr. G. Baird, of West Virginia; and the Surgeon-Generals of the army, the navy, and the Marine-Hospital Service. This list is given as it was received by us by telegraph.

The Judicial Council of the American Medical Association.—After his election to the presidency of the association, Dr. William Brodie resigned from the Judicial Council, and Dr. J. K. Bartlett, of Chicago, was appointed to fill the vacancy.

The Addresses in Ophthalmology and Pædiatrics at the Meeting of the American Medical Association.—We subjoin brief abstracts of these addresses, which we were obliged to omit from the report of the meeting which we gave last week:

Dr. White, of Virginia, chairman of the section in ophthalmology, otology, and laryngology, gave a critical review of the ophthalmological work of the year, notably the substitution of Noyes's operation of evisceration of the bulb for enucleation. The operation had been comparatively unknown until Alfred von Graefe brought it prominently forward. Mention was also made of the important work done by Landolt in the determination of the convergence power, of the increased precision in the indications that were now relied on for the use of jequirity, and of the value and applicability of cocaine, with a physiological explanation of its action. But the principal part of the address was devoted to a consideration of the important subject of the reflex neuroses due to disease of the nose, such as reflex cough, sick headache, hay fever, and the like. Clinical facts were brought forward that were somewhat at variance with the idea of engorgement of the nasal mucosa being essential to the production of such reflex phenomena.

Dr. J. H. Pope, of Texas, chairman of the section in diseases of children, read only portions of his address, and alluded to several matters in a general way, such as bichloride of mercury and calomel in the treatment of diphtheria. Cases were mentioned in which, but for the use of these remedies, tracheotomy would have been necessary. After a brief allusion to the use of peptonized foods in diarrhœal diseases, the chairman proceeded to the consideration of the ætiology of rickets, a leading element in which he thought was the undue continuance of lactation, which, besides, was injurious to the mother. He regretted to observe that the attendance at the section was so small.

The Attendance at the New Orleans Meeting.—At the time of the final adjournment 659 members had registered.

THERAPEUTICAL NOTES.

The Combined Administration of Belladonna and Iodide of Potassium.—Aubert ("Lyon méd.") affirms that the headache and coryza experienced after taking large doses of iodide of potassium may be entirely prevented by the judicious use of belladonna. In the case reported, eighty grains of the iodide were given daily, one grain of the extract of belladonna being administered in the evening. After a few days, the writer states, it is possible to suspend the use of the latter drug without any danger of a recurrence of the iodism.

Intra-uterine Injections of Corrosive Sublimate.—Winter ("Ctrlbl. f. Gyn."; "Cntrlbl. f. d. ges. Therap.") regards corrosive sublimate as the most dangerous of all the antiseptics in common use. He is persuaded that the solutions generally employed are too strong, and affirms that in the proportion of one to five thousand all the antiseptic action of the drug can be obtained, without incurring the risk of occasioning toxic symptoms.

The Hypodermic Administration of Iodide of Sodium.—Arcari ("Gazz. Med. Ital. Lombard."; "Gaz. hebd. de méd. et de chir.") states that he has frequently resorted to this method of administering the iodide in cases of syphilis in which its administration by the mouth was impracticable. He says that, if thirty grains are given by the mouth and twenty subcutaneously, the result will be the same as if ninety grains had been given by the mouth. He also states that no local disturbances are caused by the injections.

Bromide of Zinc.—According to the "Lancet," Testa has made a number of experiments with this drug, from which he draws the following deductions: Small doses diminish sensation. When the drug is pushed to larger doses, first sensory and then motor paralysis results. In its action the zinc element predominates over the bromine. The cerebral effect is slight, being manifested merely in the form of moderate somnolence.

Carbolic Acid in Diabetes.—The same journal cites McAvoy's statement that, by administering the glycerite of carbolic acid in five-minim doses, he relieved an obstinate case of diabetes mellitus in which all other remedies had been tried in vain.

Thalline.—Mingazzini ("Gazz. degli ospit."; "Ctrlbl. f. d. ges. Therap.") has employed this drug quite largely, and summarizes his experience as follows: A dose of two grains given by the mouth lowers the temperature sometimes as much as a degree and a half centigrade [= 2·7° F.], the fall lasting from four to six hours. A dose of four grains causes a fall of three or four degrees. When the drug is given subcutaneously the effects are produced much more rapidly, and the temperature remains lowered for a longer period, than when it is given by the mouth. It acts promptly also when given by the rectum. The antipyretic action of thalline is more rapid than that of antipyrine, but not so rapid as that of kairine. The pulse and respiration are diminished in frequency after a dose of thalline, and perspiration seldom fails to take place. The patient generally complains of being chilly, and sometimes has a marked rigor; after the depression the temperature reaches a higher point than before the drug was taken. Neither vomiting nor collapse has ever been noticed by the writer. He concludes that thalline is not to be preferred to antipyrine.

Subcutaneous and Intra-venous Injections of Ammonia Water.—Trusewitz (quoted in the "Ctrlbl. f. d. ges. Therap.") speaks in praise of injections of ammonia water in cases of collapse. He relates the case of a patient whose life was saved by the timely subcutaneous injection of ten drops of the preparation, after brandy and ether had been administered in the same way without effect. A large abscess formed at the site of the injection, but this the writer regarded as of minor importance. He mentions two other cases in which he was equally fortunate in saving patients by ammonia injections.

A Quinine Injection for Gonorrhœa.—Haberkorn ("Ann. des mal des org. gén.-urin.") uses the following as an injection:

Sulphate of quinine	30 grains;
Sulphuric acid	q. s.;
Glycerin	12 drachms;
Water	5 ounces.

Mix. Three injections to be given daily.

The Physical Condition of the Russians.—The "Union médicale" quotes the "Revue des maladies de l'enfance" to the effect that in Russia more than sixty per cent. of the children born die before reaching the age of five years—about two millions annually; also that not more than half the males reach the age of thirty-five years, and that a third of those are found unfitted for military service, either from defective stature or from constitutional debility.

The Liver viewed through the Urine.—An article in a recent issue of the "Lancet" is entitled "A Contribution to the Clinical Study of the Liver viewed through the Urine," but the writer does not tell us whether he uses a peculiar sort of endoscope, or dips his immersion-lens in the renal secretion.

THE NEW YORK MEDICAL JOURNAL, MAY 16, 1885.

Lectures and Addresses.

AN ADDRESS

DELIVERED TO THE PUPILS OF THE

TRAINING SCHOOL OF THE NEW YORK HOSPITAL.

BY GEORGE L. PEABODY, A. M., M. D.,

VISITING PHYSICIAN AND PATHOLOGIST TO THE HOSPITAL.

IN the presence of these ladies and gentlemen who have come here because of the interest they feel in you and your good work, it has fallen to my lot to congratulate you upon the achievement of the object that has been a very engrossing one to you during the past two years. You have persevered in the face of much that has been hard to bear, much that has been discouraging, much that has required the exercise of all the patience and fortitude that you could command, and to-night you begin to reap your reward. The trials of your nursing life began, if I mistake not, even before you entered the training school. Almost every one of you has had to meet and overcome the opposition which in many cases has been very strenuous on the part of those who are nearest and dearest to you before enrolling yourselves in our ranks. Many were the objections opposed by them to your entering upon this work, and many, doubtless, were the misgivings with which they inspired you when you took your first steps in this direction. I hope, as I firmly believe, that you will never regret your course; indeed, I believe that the measure of your natural fitness for the life which is now opening before you is to be estimated by the strenuousness of the opposition which you successfully encountered.

When good Pastor Fliedner, the John Howard of Germany, began his ministrations among the released female convicts of Düsseldorf in 1833, he hardly thought that there at Kaiserswerth, the little village of his adoption in the low country of the Rhine, a seed was sown which was to ripen and bear fruit all over the civilized world. Those interested with him banded themselves together and founded the first Prison Society of Germany in 1826. The good man's circle of practical philanthropy widened. The state of the sick poor had for some time excited his interest, and it seemed to him that hospitals might best be served by an organized body of women specially trained and devoted to the work. Accordingly, in 1836, he began the first deaconess house and the hospital at Kaiserswerth. By their ordination vows they devoted themselves to the care of the poor, the sick, and the young. This was the beginning of the movement which has led to the establishment of schools for the training of nurses. To this beginning and to good Pastor Fliedner you owe your existence as nurses; and, if we could invite his shade to be with us this evening, I think he would accept you as evidence that the process of cultivation had been successful in producing *pure cultures* of the species which he originated, in which none of the instruments of precision of modern scientific research could detect aught of foreign admixture. It was here that Florence Nightingale, to whom you all look up as to your patron saint, obtained her training. I need not allude to the further progress of the movement after she transplanted the idea to British soil; you are all familiar with the rest.

It is not my purpose to dwell at length to-night upon your duties and your privileges. The diplomas which you have just received are evidence that you are familiar with them all. I shall ask you to consider with me some of the aspects of the trained nurse to which allusion is perhaps not frequently made. It has seemed to me of late years that my function in life has been largely that of a filler of gaps; and when, some years since, there seemed to be a gap in the training school which a doctor was needed to fill, I was accordingly asked to become your medical attendant. In that capacity I have become familiar with nurses as patients; and perhaps you would like to hear what sort of patients you make. Some of you are most exemplary—kind, considerate, thoughtful, appreciative, grateful. The most undesirable of all patients is the medical student. He knows so much, or so little! If he has a twinge of rheumatism in his left shoulder, he knows that he is dying of angina pectoris. He also knows that Dr. Brown or Dr. Jones, in his native village, always told him exactly what to do for such symptoms, and that you are treating him quite differently. One medical student is a source of more wear and tear to his doctor than a whole hospital ward. Next to the medical student in being undesirable as a patient comes—the doctor. He, too, is unreasonable and very skeptical. For himself he has but little faith in drugs and the efficacy of medical treatment. If you tell him that he needs a tonic or exercise, or regularity in his eating and sleeping, or abstinence from tobacco—things that he is daily telling his patients under similar circumstances—he thinks that your judgment is hasty, and that you do not fully appreciate the significance of his symptoms. He thinks better of you if you tell him to take a goodly allowance of champagne with his dinner—in short, if you treat him like a brother in distress; but for his own drugs and yours he has no personal liking.

I shudder when I recall the possibility of an ultimate retribution in these matters; when I think of the gallons of cod-liver oil, for instance, that I have forced other people to swallow, never having had the courage myself to taste a single drop.

The nurse as patient requires a more definite classification than the medical student and the doctor. If she is suffering from a trifling malady, or one requiring a simple remedy, she is sometimes difficult of persuasion, sometimes skeptical, occasionally, I shudder as I tell you, homœopathic in her faith. It is an instance of the curious intricacies of the mental working of your sex that a nurse of homœopathic proclivities can reconcile it to her conscience to dose her patient with all sorts of direful stuff that she believes will soften his bones, or poison his blood, or melt his marrow; but she does it without flinching, gentle soul! calm in the discharge of her duty. If the trained nurse is seriously ill, there is no more docile, grateful creature than she. Her only thought (how often has it been expressed to me in the sincerity and simplicity that the presence of real danger seems to call forth!), her only thought then is of others. She wishes to get back to her place in the ward, in order that her sisters may not have her work as well as their own to do. And if she realizes at last that the fight has been fought and lost, that she must leave your ranks and join the vast army of the silent majority, she relinquishes the world and all that she holds dear with a fortitude worthy of her noble life. One of these days, when a commemorative tablet shall hand down to your children, as I trust it may, the story of those who have deserved immortality in our little hospital world, I shall be ready with the names of two of your sisters who earned here long ago the right to head that list.

Your function is higher than that of a mere extender of drugs and maker of poultices. You are to attend to all the wants of your patients which are not actually reached by the doctor. A most important addition to your ward-work is the instruction in cooking that you now receive. I do not mean that you must necessarily replace the cook in the families in which you serve; but, if the surroundings of the patient will allow your absence from the sick-room, you should be willing, as you are able, to supplement her work for your patient. It is not beneath you to do anything that may tend to bring about your patient's restoration to health. That should be the prime object of your life. The doctor would gladly do many of your duties if his other engagements and his training would permit. In short, it should never be forgotten that the doctor and the nurse together are to do all that their combined skill and experience can suggest. Help *may* come from some other quarter, and is, of course, to be welcomed when it comes; but recollect that none other can be counted upon. As you were told a year ago, recollect that no function in the sick-room is too menial for your hands. Your very calling ennobles what you do. By all means, take advantage of all the assistance that may be vouchsafed you. If your patient provides servants for you, do not hesitate to utilize them judiciously; but if your duties should lie among those whose paths are not smoothed by the luxuries that wealth can bring, if your ministrations should be to those whose cares are increased by poverty, respect the good that is in them, respect yourselves sufficiently to follow the rule that I have asked you to lay down for yourselves: Do all that the doctor is obliged to leave undone. Doctors, I regret to say, are sometimes imperfect beings, and will occasionally ask you to bear what might be considered legitimately to belong to their load. Here I may make a confession to you of a sin of this nature that has troubled my conscience very seriously for the past ten days. I know not against which one of you I sinned upon this occasion, and therefore, instead of confessing it privately to her, I will clear my conscience by telling it openly to you all. I was standing at the door of the hospital, awaiting the tardy descent of that elevator which is always at the top of the shaft when I seek it at the bottom. A throng of anxious visitors formed my companions, and awaited with me the time when the pilot of that slothful craft, having discharged his mixed functions of messenger, expressman, postman, stretcherman, and what not, should finally bring her alongside and invite us aboard. Anxiety was written in their faces, poor souls! and I felt for them as they looked eagerly upward, waiting and hoping. Suddenly one of them, a hard-featured, angular, swarthy representative of your sex, an importation from the ever-verdant isle, elbowed her way up to me and asked, with a smile that seemed a distortion of *those* features:

"And how is she?"

I assured her that I hoped she was well, but that I didn't know.

"Sure, don't ye go to her ward?"

"I really do not know who it is that you are inquiring for."

"Sure, it's my sister I mean?"

Still I told her that I didn't know.

"Well, now, this will tell ye whether ye go to her ward or whether ye don't," said she, showing me a card which authorized her to visit one of my wards. She had cornered me fairly; there was no escape, and I had to admit that I was taking care of her sister.

"Well, and how is she?" said she again, with an air of triumph. Then I explained at great length that I did not know which of my patients her sister was, and told her apologetically that if I did I would be very glad to give her the information. Nothing daunted, she returned to the attack: "Ye don't know who she is? She's Bridget Daly, and you're her doctor, and I want to know how she is." Again I explained that I did not know the patients by name, and, therefore, that I did not know who Bridget Daly was. Now her patience showed signs of exhaustion. I must have appeared very stupid or very ill-natured to her, for she replied, sharply, "Don't I tell ye who she is. She's my sister. Now how is she?"

It was at this juncture that my courage oozed away, and I transferred to your shoulders one of the burdens which rightfully belonged to me. I begged her to go to Ward L and ask the nurse, who could, I was sure, give her the information. With a look of scorn upon her hard features, the memory of which makes me tremble where I stand to-night, she gave vent to her thoughts, not only of me, but of doctors in general. They were of such a character, and expressed with such force, that I concluded not to wait for that elevator, and accordingly I beat a hasty retreat up the stairs. One of the nurses in that ward was missing by actual count the next day, and I have not had the courage to inquire for her yet.

Ah! my friends, that poor soul whose sick sister was her great grief could not be made to understand that she was only one of many to me. Be prepared for human nature in your future work. It will happen to you all to have experience in life of which this is a type. Care tenderly for the feelings of the distressed. Believe me, I would gladly have told Bridget Daly's sister all about Bridget Daly if I could. I know that none of you will ever voluntarily do aught that may be unfeeling or thoughtless; but let me urge you to study by your manner to convey an impression of silent respect for the grief and anxiety that surround you, even though you may often have seen severer trials. Do not mistake me. You should not allow yourselves to be too much harrowed by the sufferings of which you must often be the silent witnesses. The mental wear and tear of your lives would be far greater than you could bear if you entered into the griefs of all your patients as if they were your own; and your judgment would soon be of no more value than that of a relative of the sufferer. But do not become callous to suffering, however familiar you may become with it. There is an intermediate course which your own good feelings and good sense will point out to you.

Let me ask your attention for a few moments to the consideration of one of the relations of the training school to the community. It has always been a blot upon the civilization of our age that so few occupations are open to gentlewomen whose circumstances or whose desires render it necessary for them to be self-supporting. When, therefore, this most worthy and most honorable calling was in process of development, it was hailed by all thinking men as a very laudable advance in the right direction. This is one of the few means of earning a livelihood of which no lady can feel aught but pride. In it there is abundant opportunity for the development of all your noblest traits of character. Your sympathies will never lie dormant, but will become cultivated and developed in no ordinary degree. Your intellectual faculties are called into play far more than are those of many of your brothers. A future is opened before you of usefulness, a career of honor, in which you may make yourselves (I speak guardedly) of importance to your fellow-beings in no ordinary way; but, to descend to details, are you in readiness to fulfill for a community like ours all the duties of your calling? I hear it said not infrequently that the trained nurse is a luxury that only the wealthy can afford. She requires a servant to wait upon her. Her wants are numerous. She is very exacting and tenacious of what she considers her due; and only in the homes of the wealthy does she seem quite in her proper sphere. But who is to nurse the sick of the great middle class in our midst? Who is to carry out the details of the doctor's directions among the poorer of our gentlefolk and among our artisans? Are you willing to enter a modest household and to do your saintly office for your fellow-creatures in their lowly estate, to endure the privations which they themselves have become accustomed to, to eat with their servants if you must, to do with your hands all the menial duties for the sick one? Somebody should do them, and his slender means are already sorely depleted by the exigencies of his illness and he can not afford to employ an additional servant to help you as you and he would wish. I do not ask whether in the sweet name of charity you are willing to incur privations, to suffer discomforts, to make great sacrifices. I know well enough how you would answer that question, every one of you. But the only lasting basis of success for such enterprises as our training school is the commercial basis. If the recompense that you are to receive is sufficient to compensate you for your services, the success of the school is assured; if not, its days would soon be numbered. Is, therefore, your recompense going to be sufficient to reward you substantially for incurring habitually such discomforts as I have described? Almost without exception you answer, No. Very well, then, how is the question to be met? Are these poor people too poor to be entitled to the blessings which you can bestow? Are they to enter our hospitals, and there become the recipients of charity? Such a course would be very detrimental to them and to the community of which they form a very large part. Many a home would be needlessly broken up, with all the grave import of that sad phrase, if its father or its mother were to be brought to our hospitals when he or she might remain at home. The resources of these institutions would be unequal to the demand which would thus be put upon them, and the evil results of such a forced acceptance of charity would be greatly to be deplored. No, there must be some other solution of the difficulty: where are we to seek it? There are doctors enough who are willing, even anxious, to attend them for such small fees as they are able to pay—for much smaller fees than you will habitually receive. Think not for a moment that I would censure you for your choice. In your position I would choose as you do. What I am about to say is merely a plea for the further development of the training-school system. There is a demand for nurses for these people, and, rest assured, that demand will be supplied. Training schools must arise which will receive and educate nurses who are not gentlewomen, nurses to whom it would be no hardship to bear what I have described, and who would be quite competent to do for these patients all that they require. Believe me, the work of our training schools is but in its infancy, and it would be hard to predict the ultimate limits of their usefulness.

Again, how long do you suppose that this city will willingly continue with its present very inadequate supply of male nurses? It is conceded on every side that there is an urgent need of better material in this class of assistants. It is a matter of great surprise to many of us that there is thus far no training school for men. Is it vain to hope that some one of our sister hospitals may one day endeavor to do her share in the great work of education in this way?

Those of us who recollect what hospital nursing was before the introduction of the training-school system into America, and who are now familiar with the changes that that system has wrought, find it very difficult to understand that there are still hospitals in our midst which do not believe in the efficiency of trained nurses and training schools. There is a public hospital here where the two systems are still in force, where the male wards are wholly attended by the old-fashioned nurse, the training school being restricted to the female wards; not, however, be it said, from lack of faith on the part of the managers, but from lack of funds. A training school is an expensive establishment. When, a few months ago, I had occasion to have one of the male nurses in that hospital summarily removed for intemperance—not intemperance of the usual kind, but intemperance in the use of opium—it was several weeks before his successor was appointed. Why do you suppose the patients of that ward were left wholly uncared for during all these weeks, or cared for only as they could attend to each other? Forsooth, a new factor entered into the nursing problem. A man with good testimonials and good record could not be promptly appointed by the hos pital authorities because he had not passed the civil-service examination. He might, perhaps, be unable to tell you the population of Timbuctoo, or the capital of Patagonia; hence he could not possibly be considered a qualified nurse. Behold, the nurses in that hospital are to be purified and rendered sympathetic and scientific, not by the extension of the domain of the training school, whose usefulness has been tried and proved, but by the magic influence of the civil-service examiners.

I could entertain you with many a serio-comic account of hospital experience before the days of training schools in America. Would you believe that no nurse, male or female, in the hospitals in those days was competent to use the clinical thermometer? Many a night have I been called from bed by my own order that I might ascertain for future guidance the temperature of a fever patient.

So firmly rooted are the training schools, where they have been fairly tested, that it is safe to say that lack of faith in them to-day can come only from lack of experience. Where is there a training school in existence to-day, where is there a hospital whose nursing is conducted by a training school, whose responsible managers, lay or medical, would be willing to abandon the enterprise and return to the older method?

I would not be understood to say that our own little school is faultless. In fact, there are several details in its system which I believe to be fairly open to criticism. It has frequently seemed to me that in our small hospital we are attempting too much when we agree to graduate a definite number of qualified nurses in a definite time. The primary object of every training school should be the nursing of the patients in the hospital which sustains it. If, in addition to that duty, it can educate a few good nurses for the use of the community every year, its managers should be very glad. Our duty is, however, primarily to our hospital and not to the community. Moreover, I am told that it frequently happens that a nurse is very efficient and useful in a subordinate position who lacks many of the qualities which go to make up a good head nurse, for in this latter capacity she must preside over much more than the nursing of her ward. The management of the supplies, the instruction of her juniors, the maintenance of discipline, the various duties of housekeeper of the ward, devolve upon her; and these are quite distinct from any qualities which are requisite for a good nurse in the subsequent exercise of her calling. It therefore happens, so I have been informed, that the heads of our training schools are obliged to refuse applicants for admission occasionally who, with good training, might make excellent nurses for the community, but who lack some of the requisite qualifications essential for a nurse in one of the grades of the school curriculum. Again, it is often a disadvantage to have frequent changes in the position of head nurse in a ward. It is a disadvantage to the patients, an annoyance to the doctors, and a source of needless friction in the machinery of the hospital. For all these reasons might it not be desirable to retain the head nurse of a ward longer in that position than is done at present? Would it not be an advantage to have permanent head nurses in the wards—permanent, that is, in the sense in which they are permanent in hospitals in which there are no training schools?

In the Nightingale School at St. Thomas's Hospital in London this plan is pursued, and I know that during my student days in that hospital its practical working was most excellent. A permanent head nurse would certainly make a more efficient instructor of her juniors than one but six months their senior in the nursing life. It would certainly be no injustice to those who never reached this grade, for their advantages of training would doubtless be much increased; and it would relieve the principal of the school of much and serious responsibility, besides insuring more uniformity in the care of the patient, and a better understanding of the doctor's methods and desires.

Moreover, among these permanent head nurses the hospital would never be at a loss for a competent substitute for the principal of the school in case of her temporary or permanent withdrawal at any time; and from among them the school could always furnish tried and efficient women, who are so frequently needed to organize and control new schools, which are being constantly established elsewhere. In this way, possibly, a smaller number of nurses would be graduated each year; but this does not by any means necessarily follow, and, moreover, it is of secondary consequence.

I do not know that I am quite in sympathy with the present kind of theoretical instruction that nurses receive. Perhaps too much importance is attached to an attempt at a semi-technical training in scientific subjects that can not possibly be learnt in the limited time that you are able to devote to them, and that would not contribute to your usefulness if they could be so acquired. I have heard an examiner in one of our schools deliberately ask a nurse how she would treat a wound of the palmar arch; and, great as were my amazement and chagrin at hearing the question, they were both increased beyond measure at hearing how glibly she replied to it. Now, I maintain that a good nurse need not know that there is such a thing as a palmar arch. She had better not receive as part of her general training an imperfect conception of important facts in regard to which a really useful knowledge can only be obtained by years of careful study and dissection. Better, far better, let her devote her attention to the strict details of her work. The same nurse who knew all about the surgery of the palmar arch could not tell me, in reply to a question, whether she ought to use hot water, or cold water, or alcohol, in making a mustard-plaster.

Do not think that I would remove all the interesting parts of your training, and leave you only the drudgery. Think for a moment, however, that men devote years to the study of anatomy and physiology, and then acquire only a small part of the useful knowledge that has been stored up in regard to these subjects. Now, making due allowance for the quickness with which your sex assimilates new facts and new ideas, is it to be supposed that three lectures in each of these branches can convey to you clear conceptions such as will be of use to you hereafter? If I were to invite you to be present at three autopsies, would you think that you had thus acquired a useful knowledge of pathology?

By the way, I once did, upon the request of the principal of this school, re-enforced by the superintendent of the hospital, and subsequently by that august tribunal before which nurses and doctors alike turn pale—the visiting committee—I once did invite the training school to be present at an autopsy. Such a profusion of smelling-bottles, such an odor of cologne-water, such a clinging together of pale, frightened girls, had never before diversified the dance of death in that dingy place; and when, the next day, I learned that the training school had a severe headache, after a wakeful night, whose few moments of sleep had been rendered horrid by blood-curdling visions, I hoped that I might not be asked to repeat the experiment.

"But," you reply, "how is a nurse to acquire a knowledge of anatomy such as will enable her to save life in case of surgical emergency—as of secondary hæmorrhage, for instance?" I am asked whether I forget that one of your number saved a man from instant death a few weeks ago by arresting the hæmorrhage from an artery in his neck? I shall never forget that heroic act; but do you not know that it was her presence of mind, her common sense, and her fortitude that saved the man's life, and not any previous study of anatomy? I believe that most of you will agree with me when I say that, in any particular case where there is a possibility of secondary hæmorrhage, you would prefer to be instructed by the surgeon in your duties rather than rely upon a previously acquired theoretical knowledge of anatomy derived from three lectures in the school-room.

With all its faults, our little school has prospered beyond the hopes that attended its inception. Its strength lies in you, young ladies, and your sisters in the work. Do not forget that you are greatly indebted to it. Wherever your work in the future may be, recollect that the good wishes of the hospital will attend you. There is no nobler calling than yours. The nurse who faces danger, in contact with dread infection—and even in a few weeks you may be brought face to face with one of the greatest scourges that the world has ever known—the nurse who faces danger like this without flinching is far more heroic than the soldier who risks his life in battle, for her heroism is performed in the stillness and obscurity of the sick-room, with no herald to chronicle her glory to the world, with none of his incentives to bravery, and none of his promised rewards! All honor, then, to the little band of noble women whose zeal and devotion to their calling lead them forward in such a career.

Finally, I commend to your attention the excellent ethical precepts that were spoken to you by my predecessor a year ago. I could not improve upon his advice, or his method of giving it. It would be useless merely to repeat it. It is all comprised in one short sentence, which is, doubtless, familiar to you all:

To your own selves be true, and it must follow, as the night the day, you can not then be false to any man!

Menyanthes Trifoliata in the Treatment of Amenorrhœa.—White ("Lancet") has used this drug in a number of cases of functional amenorrhœa, and considers it a valuable remedy. A wineglassful of the decoction of the herb may be taken three times a day. If administered in large doses, menyanthes has a decided emetic action.

Original Communications.

ON THE CAUSE AND CORRECTION OF DEFORMITY WITH ANKYLOSIS AFTER HIP-JOINT DISEASE.

By CHARLES T. POORE, M. D.,
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Deformities of the hip joint with ankylosis are frequently met with in the practice of almost every physician. In many cases, indeed in the vast majority, the limb is fixed in a position which interferes greatly with easy and graceful locomotion; the walk is labored and awkward, so that one can easily recognize those thus afflicted by their peculiar mode of progression. I am well aware that some patients who have had disease of the hip joint, if they have received timely and proper treatment, recover with normal motion at this articulation, and it may be truly said of them that not a vestige of the disease remains; flexion, extension, rotation, abduction, and adduction are normal. But these are the cases in which disorganization of the joint has not taken place. They are the exception, and not the rule. They are examples of osteitis. There are other cases which, although carefully and persistently treated, do not do so well, but abscesses form and open at various points about the joint, and, when recovery takes place, it is with a stiff joint and one fixed in an unfavorable position for easy locomotion. To this class of cases I desire to draw attention; to examine into the cause of the difficulty in walking and see if anything can be done to relieve in some degree the malposition of the limb, on which depends much of the lameness.

The real cause of the impediment to easy locomotion is not always appreciated; it is often considered that if the patient recovers from his hip-joint disease so as to be able to get about, all has been accomplished, and any further treatment is uncalled for, the patient being compelled to go through life badly crippled. I do not believe that motion is ever obtained in a joint that has been disorganized, one in which the cartilages have been destroyed; and in many cases in which there has been no evidence of suppuration the joint is left stiff. Whether the ankylosis is fibrous or bony is a matter of small moment. I do not think that any persistent effort should be made to ascertain this fact, for it will be hazardous to attempt to improve the position of the limb after one is satisfied that any marked changes have taken place in the joint surfaces. I have known disastrous results follow such efforts.

The method of walking in one who has recovered from suppurative hip-joint disease with malposition of the limb is peculiar, and belongs to no other deformity except infantile paralysis, where the limb is shortened and the muscles about the upper end of the femur are structurally changed. The patient sways from side to side at every step; when the foot of the affected limb is to be placed upon the ground, the pelvis of the same side is raised with a hitching or jerking motion; the loins on the opposite side are curved in the contrary direction, while the upper portion of the trunk is bent to the diseased side. There is also more or less lordosis in the lumbar region. Sometimes, even with this amount of twisting, only the toes can be got to the floor, and a crutch has to be used in locomotion. In standing with both feet on the floor, the pelvis is raised and the body twisted; often the patient has to steady himself by taking hold of some firm object. On placing such a person on his back and measuring both limbs from the anterior superior spinous process to the internal malleolus, it will be found that the actual shortening is much less than the difficulty in standing and walking would lead one to suppose. The difference may not be more than an inch between the two limbs. Yet the patient's mode of progression is awkward and tiresome, apparently due to considerable shortening. What, then, is the cause of the deformity? It is not the actual shortening of the limb, but its fixed malposition in regard to the pelvis. We certainly meet with congenital shortening in which the difference between the two limbs is not less than we find after some cases of recovery from hip-joint disease, yet the difference in walking is scarcely noticed. In shortening of the limb after disease of the knee joint, the gait is not of the labored character of the disease under consideration. In ankylosis of the hip in a straight line the walk has not this peculiar character if the shortening is corrected by a high shoe. The real cause of the characteristic gait is the flexion and adduction of the limb in its relation to the pelvis. Shortening, if the proper correction is made, will not account for it, for, if the actual difference between the two limbs is removed by the use of a high shoe, the walk is but little, if at all, improved.

To the flexion and adduction, then, must we turn for an explanation. A moderate amount of flexion in an ankylosed hip joint adds much to the comfort of the patient and his ability to go about. Flexion of the limb is met with in different degrees, from only a slight advance from a straight line to a very acute angle with the pelvis. When the patient is standing, the amount seems much less than it really is, from the fact that the patient always arches the lumbar vertebræ forward, or rather, in marked cases, the ankylosed limb, acting as a lever, rotates the pelvis downward. It is only by placing the patient on his back on a table and bringing the thigh up until the spinous processes of the lumbar vertebræ touch the table, that the amount of actual flexion is appreciated. This flexion is due to the contraction of the muscles inserted into the trochanter minor; with this there is always associated some rotation.

The question, at what angle to the pelvis an ankylosed hip should be placed to be of the greatest use, is one that has received different answers. Some, taking into consideration the occupation of the patient, would have different angles for different occupations; thus, for one whose employment or pleasure requires much standing or walking, a limb fixed in a straight position, while that of one who has to sit much, a right angle with the pelvis is considered the best. We think that the use of a limb in only one position of the body should never be taken as a guide as to the angle, but that, in solving this question, that angle should be taken that will permit of the greatest comfort, not only in one, but in all positions of the body. There can be no question that a limb ankylosed in a straight line with the body is the most useful for standing and walking, and one fixed at a right angle to the pelvis for sitting; but reverse these, and one has the most uncomfortable angle for sitting and the most useless for standing. One's vocation can not be taken as a guide. We must strive to obtain some compromising position to place the limb in, which, both standing, walking, and sitting, may be as easy as possible. Another point to be taken into consideration is the ability to pull on a shoe. With a limb fully extended this is an impossibility, and, if there were no other objection to allowing a limb to remain fixed in a straight line, this is an unanswerable one. I have a patient under my care who has recovered from disease of the hip joint with ankylosis, no adduction, but with a flexion of the thigh on the pelvis of 125°. This child is able to put on her shoes and stockings, to walk with but a slight limp, and to sit on a chair without one being able to notice that she has any deformity at the hip joint. I have therefore taken this angle as a standard, and think any marked deviation from this amount of flexion should be corrected, as it will add to the comfort of the patient.

My friend Dr. Gibney thinks an angle of 135° better than the one I have adopted; 5° or 10° of increased flexion would hardly be noticed, while a deviation in the opposite direction would be a great disadvantage. I think, therefore, that the best angle of flexion is from 125° to 135°.

While flexion on the pelvis, if to an extreme degree, is a great hindrance to locomotion, yet it is not, if in a moderate degree, so great an obstacle to easy walking as adduction; the latter increases the shortening of the limb, so that, while the actual inequality in the length of the limb may be only half an inch, the distance that the affected foot is raised from the ground may be several inches; it is also the chief element in causing the labored, awkward gait. Adduction is present in all cases of hip-joint disease in which special means have not been provided to prevent it, and sometimes the limb will become adducted, no matter what is done, either from the acuteness of the disease or the impossibility of adjusting and keeping the splint in proper condition.

The effect of adduction on the gait is evident. When the patient stands with the anterior superior spines of the ilia on the same plane, the affected limb crosses the sound one at a greater or less angle, according to the amount of adduction. In order to bring the foot of the affected side down to the ground, or get it out of the way of the sound one in walking, the pelvis of that side has to be raised; the greater the adduction the greater its elevation, and the greater distance from the floor is the foot raised, thus increasing the real shortening. This raising of the pelvis is accompanied with a twisting of the body to the opposite side in the lumbar region, and to the corresponding one in the dorsal.

The elevation of the pelvis causes its prominence, and this, together with the twisting of the body, gives a patient the appearance so characteristic of the disease. In walking, at every step the pelvis on the diseased side has to be raised with a jerking or hitching movement, in order to either get the foot of the affected side to the ground, or the limb out of the way of the sound one. The degree of awkwardness in walking is, to a great extent, due to the amount of adduction. One is often deceived in regard to the presence of adduction, unless the relation of the affected thigh to the pelvis, and not to the sound limb, is taken into account. Parallelism of the limbs, unless the pelvis is at a right angle to the long axis of the body, is *no proof* of the *absence of adduction.* The best guide to its detection is the position of the anterior superior spines of the ilia. If they are upon the same plane, and the two limbs are parallel, adduction does not exist. Adduction may exist with but little flexion, and may be the only impediment to easy walking.

The object of mechanical treatment of hip-joint disease is not only to give rest to the articulation, but to prevent flexion and adduction, especially the latter. It is a mistake to suppose that, as soon as a hip splint has been applied and instructions given, the surgeon's labors are at an end; the real treatment has just begun, and it will be found that those cases do the best that are seen the most frequently, and are under the constant supervision of the surgeon.

I think that all hip splints should be provided with an abduction screw, and that, during treatment, the limb should be kept in a slightly abducted position. Adduction, when it has once become established, has in my hands been a very troublesome malposition to overcome, and, after it has been corrected, is apt to return if there is motion at the hip joint. When ankylosis has taken place, the correction of any malposition belongs to operative surgery, and to this I desire to draw attention. After hip-joint disease (and by that I mean osteitis of the head of the femur), forcible breaking down of adhesion is a dangerous operation; the danger is great that the disease in the bones will be rekindled, and the chances of gaining much if any improvement are very small. The limb is almost always seen to revert to its former vicious position. A section of the femur, however, in its upper portion, will correct it.

The indications for an operation having in view any improvement in the comfort of a patient with ankylosis at the hip joint are, first, to correct *all* the adduction, and, secondly, to reduce or increase the flexion to an angle of 125° to 135° with the pelvis. Five operations have been performed for this purpose, namely, breaking down the ankylosis by manual force, fracture of the thigh at an uncertain point, fracture of the thigh at a determined point by an osteoclast, excision of the hip joint, and a section at the upper extremity of the femur, either with a saw or an osteotome (osteotomy). Of these, only the latter method will be considered, as the others are too uncertain in their results. The two first are absolutely dangerous. If an osteoclast could be devised that would produce a fracture just below the trochanter minor with certainty, it would surely be the best operation; but, from the anatomical position of the bone at this point, it is an impossibility, and a fracture at the junction of the upper with the middle third leaves the limb, after correction, with a noticeable bending forward at the point of operation, while, in an osteotomy, the point of section is entirely under the control of the operator.

At what point should an osteotomy be performed for the relief of malposition of the thigh with ankylosis after hip-joint disease? Three points of section have been advocated—namely, through the neck, between the trochanters, and below them. After hip-joint disease a section through the neck is often an impossibility, because there is no neck to divide, or the angle of the deformity is such that access can not be gained to it for the purpose of an osteotomy; if the neck does exist and is accessible, there is danger that the section would have to be made through diseased or weakened bone, which might again take on an inflammatory action. If there is no pathological objection, there is the mechanical one that the point of section is above the insertion of the psoas and iliacus, and these muscles, being still attached to the lower fragment, will, by their contracted and shortened condition, be an obstacle to the correction of the flexion, and will, in conjunction with the extension used after the operation, act as an adductor of the limb on the pelvis, and thus defeat the object of the operation. Cases are upon record in which a division through the neck has failed to correct, and a second operation below the trochanter was performed with good result. It certainly has not been a favorite operation.

A section between the trochanters has many of the objections urged against a division through the neck. It is true that access is easily obtained to the bone in this situation, but the point of section is above the psoas and iliacus, and it is difficult to control the limb after the operation. I have never seen a case, when the operation was performed in this position, in which there did not exist more or less adduction, and in one case the operation was practically a failure from this cause.

A cuneiform section has been advocated by some surgeons. While there is much theoretically in its favor, yet practically it has no advantage, nor is correction either more perfect or easier than after a linear division. It has also these objections: It is made through an open wound, is more difficult, takes a longer time for its performance, requires more elaborate dressings, and there is greater danger of injury to the soft parts by their being pinched between the fragments. In my hands an operation below the trochanter minor has yielded the best results. It is true that the shortening of the limb is slightly increased over that of an operation higher up, but this is so slight that it will not decrease the length of the limb to any appreciable degree, and its advantages far outweigh the objection.

The operation is easily performed. An incision, about three quarters of an inch in length, is made down upon the bone at a point just below the trochanter minor from the outside of the limb; the osteotome is then passed down upon the knife as a guide, and division is made at *right angles* to the *long axis* of the limb. Care should be taken that the line of the section is at *right angles* to the *long axis* of the *femur* and not *to the pelvis.* An error is liable to be made if this point is not attended to, because the amount of adduction is not appreciated, and the line of section is apt to be from *above* downward and inward, and not directly *transverse.* In the two specimens I have examined, the line of division was very sloping, although both operators, in their description of the operation, state that they made it transverse, while an examination of the specimens proves the contrary.

After the fracture is complete I do not consider it wise to move the limb with much force in different directions in order to stretch the shortened muscles and break up any adhesions that may exist. In these manipulations much injury may be done to the denuded ends of the bone; the limb below the point of division forms the long arm of a lever, while the upper fragment is the fulcrum, and any movement of the lower portion must exert a great force upon the cut ends; besides, there is danger that the soft parts may get caught and crushed between the fragments, and thus be the starting-point of suppuration. The wound should be covered by a strip of adhesive plaster, so as to bring its edges into coaptation, and over this a small compress on which has been dusted some iodoform. While the patient is upon the operating table, a long splint, extending from the ankle to the axilla, is put on and firmly fastened to the leg and body. After he is put to bed, an extending weight of about five or six pounds is applied, in order to keep the limb steady. After the operation wound has closed, which will be on the third day, the extension weight is run up until all the contracted muscles and adhesions are stretched. The limb can then be placed in any desired position with no pain to the patient nor danger to the soft parts.

The patient should under *no circumstance* be allowed to sit up in bed, but should be kept as flat as possible until consolidation has taken place. A failure to enforce this rule has been the cause of much disappointment in the result after an osteotomy in this region. Another point needs constant attention during the period of consolidation, and that is the position of the limb in regard to its adduction. The limbs may apparently be parallel, but, if the anterior superior spines are examined, that on the side of operation is apt to be found raised, thus practically adducting the limb, so that, after union has taken place, it will be found that the result is far from what was desired—the walk will still have the adduction swing. Plaster-of-Paris splints are used by some operators for fixing the limb after operation; in the limbs that I have seen put up in this way adduction was well marked, and in one case no improvement is said to have been gained by the operation. I can not too strongly insist upon the recumbent position during the *entire period* of consolidation. It is a waste of time to make any attempt to obtain a false joint at the point of section; if it could be obtained it would be more of a disadvantage than an advantage.

The mortality after osteotomy, if properly performed and on a suitable subject, should not be greater than that after a simple fracture, and indeed it is less, because it is less liable to be followed by secondary trouble, the element of violence in its causation being eliminated. Statistics, it is true, show a larger mortality than this statement would seem to warrant. Thus, in 132 cases of simple osteotomy through the neck of the femur and between and below the trochanters, 12 patients died—a percentage of 9·1. But the majority of these fatal cases occurred in the early history of the operation; in many the bone was reached through an open wound, the operation was improperly performed, and unsuitable cases were submitted to it. Thus, section was made at too high a point in some, sufficient time had not elapsed since the symptoms of disease had subsided in others, while in a third class attempts had been made to ascertain whether the ankylosis was fibrous or bony, and thus great injury was done. Of late years, I do not know of a fatal case after this operation, and would place an osteotomy, so far as danger goes, in the same class as a tenotomy. The pain after a section of the femur is slight, and, after the effects of the ether have passed off, patients, as a rule, make no complaint.

PUERPERAL ECLAMPSIA.

By ROBERT A. MURRAY, M. D.

On the 15th of May, 1884, I was called at 7 A. M. to see Mrs. M., aged twenty-five, who was pregnant six months and a half with her first child. About midnight, after severe headache for two or three hours, she was suddenly taken with violent emesis, which continued up to the time of my visit. On examination, I found the feet and limbs œdematous, the face puffy and swollen, and dimness of vision. On questioning, I found that but three tablespoonfuls of urine had been passed during the previous twenty-four hours, and this high-colored and smoky; repeated examinations of the urine during the previous month, in consequence of dysuria from vesical catarrh—a common result in her of slight cold—had proved negative; her general health had been good until this sickness.

The emesis was quieted by a little iced brandy.

At 7.30 A. M. twitching of the facial muscles. A peculiar, quiet, and marked dimness of vision betokened the approach of convulsions. The attack was severe. Cyanosis, and almost asphyxia, resulted; coma followed, from which she was aroused in a half-hour.

These attacks were repeated at short intervals during the day, although chloral and bromide of potassium in twenty-grain doses were administered, at hourly intervals, for three doses, chloroform being used on the approach of the convulsions. The kidneys were cupped. Pulv. jalap., gr. x, potass. bitart., ʒj, repeated every two hours for three doses without effect. Diaphoresis was caused by hot bottles and warm blankets. At 5 P. M. urine, ʒ ij, was drawn by catheter, solid with albumin and bloody.

At 5 P. M. a slight sanious discharge appeared, and commencing dilatation of the os indicated the supervention of premature labor. The patient was very much exhausted; pulse 100, temperature 100°, respiration 40. On consultation with Dr. Gillette, he advised the induction of premature labor, but with little hope of saving the child or the mother.

At 7 P. M. the patient was put thoroughly under chloroform. After rupture of the membranes, the cervix was dilated by Barnes's dilators; the head was found in the L. O. A. position; forceps was now applied; a dead child, after little difficulty, was extracted; the placenta followed; labor was completed in one hour and a half; little blood was lost; patient became conscious.

In about half an hour the pulse became frequent and intermittent, and an acute attack of œdema of the lungs set in; the pulse became imperceptible at the wrist, and the patient seemed about to die. Brandy and tincture of digitalis were given subcutaneously, the digitalis in ten-minim doses, every fifteen minutes, for five doses, when the heart beat strongly, the œdema subsided, and brandy and milk could be swallowed.

Urine was now drawn; one pint and a half obtained; smoky, specific gravity 1·028; albumin, 80 per cent. Epithelial and blood casts and blood corpuscles were abundant microscopically.

May 15th.—Cephalalgia, amblyopia, and œdema of limbs still persist. Elaterium given in $\frac{1}{8}$-grain doses every hour; half a grain caused six profuse watery stools, which relieved the restlessness and headache. One pint of urine passed during the night, 50 per cent. albumin. Patient now rallied well; the œdema and delirium, which lasted three days, subsided.

24th.—Urine 20 per cent. albumin; casts and blood diminishing; two quarts in twenty-four hours. Sp. gr. 1·022. Patient has been taking infusion of digitalis and bitartrate of potash, which was stopped. Tincture of the chloride of-iron, ♏xx, and hydrarg. chlor. corros., gr $\frac{1}{20}$, were now given three times a day, and, with the diminution of the mercurial after the third week to $\frac{1}{30}$ grain, were continued for six weeks. No casts or albumin have been present in the urine for three weeks. Patient was discharged.

Four months after this, patient called to say she was again pregnant to the second month. Urine examination negative.

Puerperal eclampsia, while not frequent, is one of the most fatal complications of pregnancy. Lusk[*] estimates, from an examination of the mortality statistics of the city of New York, that one death in seven hundred confinements is due to this cause. Comparing the deaths from eclampsia with those from all causes in the puerperal state, the proportion is one to eight. Spiegelberg[†] estimates the occurrence of convulsions in childbirth as one to five hundred. Eclampsia can occur at any time in the course of pregnancy or the puerperal state, though it is rare in the first half, and seldom seen before the seventh month. Spiegelberg[‡] relates a fatal case at the fourth month, von Bluff a similar one at the fourth month, and Danyau one which terminated successfully, after extraction of the ovum, in the sixth week.

Most frequently the eclampsia occurs during labor, though Legroux has seen them on the fourteenth day, Lumpe on the twenty-fourth, and Simpson in the eighth week after labor.

Löhlein[#] gives his experience that two thirds of the cases of eclampsia in childbed occur in the first twelve hours post partum; the remaining third in a short time, usually five or six days, after labor. The farther removed from childbirth the attack is, the less likely is it to be concerned with that as a cause.

The seizures vary in number, but they may be exceedingly numerous. Braun[‖] reports 70, Brummerstadt 81, and Depaul[△] 160 in a day.

The first convulsions give an idea of their probable recurrence and severity, though they may become so frequent as to make an estimate of their number impossible. In the case described we are brought face to face with the ordinary symptoms of acute nephritis with renal insufficiency. Albuminuria may or may not be present to indicate the renal trouble, though they are very frequently associated.

Dr. J. C. Lever, in "Guy's Hospital Reports," 1842, was the first to draw attention to the association of albuminuria and puerperal convulsions. In ten cases the urine was examined; albumin was found in nine cases; in the post-mortem made on the tenth case meningitis was found to be the cause of death. These observations were confirmed by Simpson, Ganod, Delpech, Cohen, Devilliers, and Regnault. From these cases he drew the conclusion that the convulsions in eclampsia, being the same as those occurring during Bright's disease, must arise from the same cause: the retention in the blood of the excrementitious matter of the urine—urea.

Frerichs, in 1851, from experiments on animals, thought that the convulsions were not produced by urea, but by carbonate of ammonium produced by the decomposition of urea; and that the condition was not one of uræmia, but the convulsions were due to ammoniæmia.

Spiegelberg[*] reported a case in which he demonstrated ammonia in the blood sufficient in amount to apparently justify this theory; but subsequent examinations were negative, and he concludes that ammoniæmia is to be regarded as one of the rarest causes of convulsions.

Braun[†] expressed clearly the true uræmic theory of convulsions. As the result of twenty autopsies in which death resulted from puerperal eclampsia, in five of which peritonitis, and in fifteen Bright's disease was found, he concludes that eclampsia is due to Bright's disease in one of the three forms described by Frerichs—hyperæmia, fatty degeneration, or atrophy of the kidney.

The Traube-Rosenstein theory held that convulsions took place when in pregnancy hydræmia was caused by the loss of albumin. The aortic pressure suddenly increased, the increased pressure giving rise to œdema of the brain, secondary compression of the vessels, and a resulting acute anæmia, which, extending to the motor centers, would cause convulsions.

Spiegelberg[‡] asks why, if the conditions assumed are so often present, convulsions do so rarely occur. He denies that pregnant women are as a rule hydræmic, that hydræmia and cerebral anæmia do produce convulsions, and that the clinical evidences afforded by the pulse and pupils are those produced by œdema.

Spiegelberg[#] sums up as to the ætiology and pathology of eclampsia:

1. That eclampsia proceeds from uræmic poisoning in consequence of renal insufficiency, the immediate attack being due to suspension of the renal secretion from disturbance of the renal circulation by vaso-motor spasm.

2. Eclampsia without albuminuria belongs to another class, and is epileptic in origin. It is due to reflex stimulation of the vaso-motor and convulsive centers. The attacks are infrequent and seldom fatal.

Convulsions occur more commonly in primiparæ than in multiparæ, especially in elderly patients with a first pregnancy, in twin pregnancies, in contracted pelves, in prolonged and difficult labors, and in the illegitimately pregnant. Epidemically, they may occur in consequence of atmospheric conditions (Fordyce Barker).*

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[*] Lusk, "Science and Art of Midwifery," "Eclampsia."

[†] Spiegelberg, "Lehrbuch der Geburtshülfe."

[‡] *Ibid.*, *op. cit.*

[#] Löhlein, "Zeitschrift f. Geb. u. Gyn.," viii, 2.

[‖] Braun, "Lehrbuch der gesammt. Gyn."

[△] Depaul, "Leçons de clinique obstét."

[*] Spiegelberg, "Arch. f. Gyn.," i, 1870.

[†] Braun, *op. cit.*

[‡] Spiegelberg, *op. cit.*, p. 559.

[#] *Ibid.*, *op. cit.*, p. 561.

Professor Halbertsma,† of Utrecht, deduces:

1. That the facts observed did not permit his recognizing a reflex contraction of the renal arteries as the cause of albumin in pregnant women.

2. Albuminuria in pregnant women was specially observed when there was a want of proportion between the size of the gravid uterus and the abdominal cavity.

3. The cause of the albuminuria in pregnant women was, in the greater number of women, the tension and compression of the uterus.

The diagnosis of puerperal eclampsia is to be made from epilepsy, hysteria, apoplexy, the convulsions of acute anæmia, and alcoholism. The symptoms of uræmia serve to diagnose from all other conditions. In eclampsia, besides this, the temperature rises, there is no cry as in epilepsy, no paralysis as in apoplexy, no habit as in hysteria, and the patient is not so easily aroused after the convulsion. Again, eclampsia is generally arrested on the birth of the child.

The prognosis is always serious. Dohrn reports in 747 cases 29 per cent. of deaths. Hofmeier reports out of 104 cases 32 per cent. Braun had a mortality of 26 per cent. in 73 cases. Spiegelberg states that one out of three die who are attacked, and the mortality is greatest in the first pregnancies in the early months, and when complications of the lungs or heart are present.

More than one half of the children die from uræmic poisoning by the mother's blood, and by carbonic-acid poisoning from the compression of the child by the uterus.

The eclampsia terminates by the restoration of the renal function while the attacks are held in abeyance by depressomotor agents; by the expulsion of the fœtus, when the attacks usually cease. Again, the patient may die from asphyxia during a severe convulsion, or by exhaustion of the nervous system, or, lastly, by septic and inflammatory troubles, to which they are very liable.

In the treatment of eclampsia, prophylaxis will prevent the larger number of cases from becoming serious.

The skin being kept active by warm baths; the bowels regulated by saline cathartics; the mild, unstimulating diuretics, as the acetate, bitartrate, and citrate of potash in some of the alkaline mineral-waters, Vichy, Seltzer, etc., with relief of abdominal pressure by a bandage—will accomplish much. The use of the tincture of the chloride of iron, both for its diuretic and tonic properties, in full doses, seems to combat the anæmia and the anasarca. A milk diet should be maintained for even months, and meats should be avoided. Cerebral symptoms should be controlled by the use of chloral and the bromides in full doses, gr. xx to xxx of each, by rectum or by mouth, if emesis is not present. The drastic purges—elaterium, croton-oil, and the pulv. jalap. co.—in full doses, to produce watery evacuations, relieve the blood, and tend quickly to restore the renal function. If these measures do not suffice, premature labor should be induced promptly.

In the case reported the only resource seemed to be this, and the happy effect of the operation confirmed us in our opinion. In the early months of pregnancy, convulsions frequently cause the pains of labor, with dilatation of the os, to succeed after some hours, the child being born dead; if this procedure were initiated in the latter months, when the child is viable, would not the children be more frequently saved?

At the time of labor the rules for treatment are mainly those laid down for the treatment of uræmia apart from the pregnant state.

Spiegelberg * concludes that they are: To endeavor first to restore the function of the kidney; and then, if the renal insufficiency and the convulsions persist, to diminish arterial tension; and to diminish to the fullest extent the irritation of the vaso-motor and convulsive centers.

This is effected most surely, according to him, by bloodletting, narcotics, and, if the patient is in labor, by its rapid completion. Eight to sixteen ounces should be drawn from the arm. By the rapidity of its action in reducing arterial excitement, by its relieving the congested kidney, by deadening the excited vaso-motor nerves, and indirectly favoring absorption, it furnishes the first resource in eclampsia. After this, and to prolong the effect, chloral and the bromides may be used. Veratrum has been proposed by Dr. H. Fearn,† of Brooklyn, N. Y. He recommends the tincture in fifteen drops to teaspoonful doses repeated every fifteen minutes till vomiting sets in, or the pulse becomes soft. Kenyon ‡ reports two cases treated successfully. What effect the use of this drug has on the infant mortality has not yet been determined.

Chloroform should be used only to assuage the pain and excitement of ineffective pains, and should not be pushed to full narcosis unless convulsions are imminent. By relaxing the muscular tissues, cervix, and perinæum, it allows of more rapid delivery; and during operative procedures, as catheterization, expression of placenta, use of forceps, and version, it should always be employed, if not contra-indicated, as convulsions are frequently begun by reflex irritation at the time of operation. If œdema of the lungs or weakness of the heart comes on with collapse, as in acute Bright's disease, and in cases where the compensative hypertrophy of the heart is not sufficient to overcome valvular difficulty, tincture of digitalis, used freely, hypodermically, has afforded a means of saving patients when death seemed imminent; especially is this the case, as frequently the patient can not swallow.

Premature labor in eclampsia should not be left to the position of a last resort; if this be the case, many patients will assuredly be lost who might be saved. Premature labor adds little to the danger when done under chloroform, by catheterization of the uterus, dilatation of the cervix, by

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* Fordyce Barker, "Puerperal Diseases," "Eclampsia."

† Professor Halbertsma, "Trans. of the International Med. Congress," 1884. "Significance of Albuminuria in Women." Abstract in "Med. Record," September 20, 1884.

* Spiegelberg, *op. cit.*, p. 565.

† Dr. Fearn, "Veratrum in Puerperal Convulsions," "Am. Jour. of Obstet.," May, 1871.

‡ Dr. Kenyon, "Treatment of Puerperal Convulsions by Ver. Vir.," *ibid.*, New York, October, 1879.

Barnes's dilators, whereby no harm is done to the genital canal; and delivery by the forceps affords absolutely the most sure guarantee that the convulsions will cease and the lives of mother and child be saved. Braun declares that he has seen but one patient with eclampsia before the fourth month saved where abortion had not taken place.

After childbirth, the use of tonics, and particularly the tincture of the chloride of iron, with small doses of mercury bichloride, has in my hands, when the albuminuria persisted, been the means of entirely clearing the urine of casts and albumin, and at the same time of building up the general health of the patient. The iron should be used in full doses; the mercury in doses of one twentieth to one thirtieth of a grain, and this dose maintained for a time until the gums show redness; this has not occurred in my cases for at least four weeks, and I have not seen one case of salivation.

Two questions are suggested by this study of convulsions: Does pregnancy cause Bright's disease? and how far are we warranted in advising that a future pregnancy will be safe and successful in its issue?

Roberts * says there can be no doubt that many of the cases where Bright's disease co-exists with or follows the pregnant state are examples of the coincidence of the two independent conditions. Pregnant women are, of course, liable, like other persons, to contract Bright's disease from any of its ordinary causes; and, again, women who are the subjects of Bright's disease may become pregnant. But, after eliminating the cases belonging to these two categories, there are still, I believe, a considerable number where Bright's disease has really been caused by pregnancy. The Registrar-General's report furnishes some valuable evidence on this point:

In the five years, 1857–'61, there were registered 6,220 deaths from Bright's disease; 3,699 were males, 2,521 females, being in the proportion of 68 females to every 100 males. But the deaths of women from Bright's disease during the child-bearing period of life (twenty to forty-five) far exceed this proportion, being as high as 80 women to every 100 men. After the age of forty-five, the proportion of deaths from Bright's disease sinks again to 59 women for every 100 men. There seems no other conclusion to be drawn from these numbers than that the puerperal state is a prolific cause of Bright's disease.

Dickinson † confirms the opinion expressed by Roberts. To touch on clinical apart from pathological experience, I have seen a considerable number of instances of persistent albuminuria, with characteristic symptoms, general, and in one case laryngeal œdema, which had begun in a first, and become exasperated by subsequent pregnancies. Noteworthy points about them are, first, the marked increase of the disorder, and the increasing risk of convulsion which each successive gestation involves, and the slight tendency to get worse, or even the occurrence of steady though slow improvement, both in the general symptoms and in the state of the urine, so long as the condition in which the disorder has arisen be not repeated. A practical rule is discerned, which is not easy of enforcement, from which we conclude:

1. That subsequent pregnancies in patients who have had convulsions are to be avoided for a long period, so that the kidneys may have their functions completely restored.

2. That, on the occurrence of pregnancy, the urine should be frequently examined, and an endeavor made by prophylaxis to guard against the uræmic condition.

3. That abortion, or premature labor, should be promptly induced, when uræmic symptoms present, where in previous pregnancies severe eclampsia has occurred.

The patient whose case afforded the text for this article was last month delivered safely, and without an untoward symptom, of a living child. At no time during the progress of the pregnancy, although examinations were carefully made, did the urine show evidences of changes in the kidney.

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THE TREATMENT OF CHRONIC DACRYO-CYSTITIS.

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In the normal condition the amount of fluid secreted from the lachrymal passages is very small, but under irritating influences it is liable to be not only increased in quantity, but greatly changed in character. The important factors which conspire to bring about a condition of chronic dacryo-cystitis are swelling and hypertrophy of the mucous membrane, a lessening of the caliber of the nasal duct, and a secretion of inflammatory products of a thick, tenacious character, which are retained and consequently cause distension of the sac, and ultimately erosion of the lachrymal bone. From the fact that in these cases there are, as a rule, swelling and stenosis of the nasal duct, the conclusion is easily arrived at that the fundamental principle in the treatment is dilatation. Hence it is we are taught that any treatment to be effective must be that which will enlarge the passage-way to the nose, thus giving exit to the pent-up secretions in the lachrymal sac. The remedies most recommended are the slitting up of the lower canaliculus and the subsequent passing of probes into the nasal duct. Various methods of dilatation have been practiced from time to time with varying success. Dupuytren attempted to render the nasal duct permeable by introducing tubes made of gold or silver, having at their upper end a border to give them support. In a majority of cases the bony passage became worn under the pressure of the cannula, and the tube sank down. In others, intractable disease of the bones occurred, rendering a removal of the tube necessary. Leaden styles have been and are at present occasionally used. Some commence the treatment by introducing them, and allow them to remain, removing them from time to time, in order to cleanse the duct, or try its permeability. The uncertainty of success and the annoyance to the patient have made this method less preferable than the treatment by probes. Bougies of *Laminaria digitata* have also been used. Their advantage consists in their absorbing the fluid from the lachrymal passages, and swelling up to many times their original size. The objection to their use is that they are likely to swell to such an extent that their removal causes a laceration of the lining membrane of the duct. The same objections apply to the bougies of catgut, saturated with nitrate of silver, that have been recommended by some surgeons. Forcible dilatation, on the principle of Holt's dilatation for urethral stricture, has been suggested, but is not popular. Stilling's practice is to pass a knife of the shape of a right-angled triangle into the nasal duct, and incise in three or four directions; no dilator or probe is introduced afterward. Warlomont speaks in praise of this method, and says the cure is immediate and permanent, though this is not in accord with the experience of others. Causing ectropion of the lower lid and punctum, which limits the conduction of tears to the sac, has been recommended as a curative measure. Destruction or obliteration of the sac has been practiced, but at present would hardly be regarded as a justifiable procedure. Astringent preparations, such as nitrate of silver, sulphate of zinc, etc., are injected into the sac, and have attained reputation as curative agents. Tincture of opium and tincture of iodine have been advocated, but are objectionable because of the impossibility of preventing their passage into the pharynx. It may be said here that no method known at the present day gives assurance of permanent benefit. In a considerable number of cases the result is only palliative, and the relief obtained does not always compensate for the pain and inconvenience to the patient. While all authorities agree as to the efficacy of passing probes into the nasal duct, there is much diversity of opinion as regards the benefit derived from the introduction of large ones. De Wecker,* as a preface to his remarks on treatment, says: "There are two points of capital importance on which much of the success of the treatment will depend. One is to realize that we are not called upon to remove any obstacles which oppose a definite resistance, such as occlusions or constrictions. All methods, therefore, in any way rough or coarse, are to be deprecated. The second is to realize that any treatment adopted should disturb the physiological functions of the tear-passages as little as possible." Further on he remarks: "I reject all large probes, and never use any in excess of Bowman's No. 3." Swanzy,† speaking of Weber's conical probes, says: "I do not use them, because, when passed into the nasal duct, their thickest part, which is 3 to 4 mm. in diameter, corresponds with the upper end of the duct, which is its narrowest part, being only 3 mm. in diameter; consequently the probe becomes more or less impacted at this place at each operation, and is apt ultimately to give rise there to hypertrophy of the periosteum, and finally to stricture, so that, while the immediate effect is good, the ultimate result is often the opposite." Stellwag‡ remarks: "It is scarcely ever necessary to use the very large probes (Bowman's 5–6). On the contrary, such a large caliber might easily become dangerous from the excessive laceration of the canals." Soelberg-Wells# says: "I, as a rule, use Bowman's probes, but frequently employ a considerably larger size than Bowman's No. 6." His practice is to begin with No. 3 to 4, and to gradually increase the size until No. 6 is arrived at. Noyes* remarks: "My conviction is that the stricture should be expanded to the fullest degree—much beyond No. 6 Bowman—and I have a size, No. 10, which measures 11 mm. in circumference." Nettleship† says: "The object aimed at is the permanent dilatation of the stricture, the rule being to use the largest probe that will pass readily." A popular method of treatment as practiced at present is thorough dilatation, the objective point being the absorption of the stricture; and, for this, probes larger in diameter than the caliber of the duct are forced through, benefiting, in some cases at the expense of the soft parts, by simply opening a passage-way for a thick, tenacious secretion that will hardly flow on a free surface. That many patients suffering from this disease have not stricture of the nasal duct is proved by the fact that the contents of the sac can be readily forced through the duct by pressure over the lachrymal sac. Neither does it follow that after thorough dilatation a cure will result. I have at present in mind a patient who, for about a year, has been under the care of one of my colleagues, at the Brooklyn Eye and Ear Hospital, on whom a No. 12 probe (Theobald) could be passed with the greatest ease. She has also worn a leaden style for months at a time. Yet the trouble persists. Noyes says: "Making haste slowly is the password to success in these cases, but I am convinced that the gate must be opened widely, and made to stay open." This success, I believe, consists in treating the effect while the cause persists and the condition remains unchanged, except in so far as a more thorough drainage tends to improve it. It seems to me that the essential factor necessary for the successful treatment of these cases must be to restore the sac and its contents to their normal condition; then it will be found that the duct in the majority of cases will be sufficiently large for drainage purposes. This can be more readily believed when it is known that "in the normal condition the quantity of fluid secreted from the lachrymal passages is so small that evaporation and secretion balance and nothing passes into the nose" (Noyes). A correct appreciation of the conditions which aid in producing and continuing this disease is necessary for its successful treatment. The most important is the palpebral conjunctivitis, which is always present. It is well known that atmospheric conditions, which excite an excessive secretion of tears in the normal eye, invariably cause an aggravation of the symptoms. Appropriate treatment here will materially aid in the improvement by arresting the over-secretion from the lachrymal gland, and consequently lessening the contents of the lachrymal sac. During the last year I have successfully treated three cases of this disease where the ordinary methods had failed. The first was cured by instilling a solution of sulphate of atropine into the conjunctival sac; the two succeeding ones, by injecting this agent directly into the lachrymal sac. My attention was accidentally called to the effect of atropine in cases of chronic dacryo-cystitis while treating a case of ulcer of the cornea in the person of a patient who had chronic dacryo-cystitis on the same side. Treatment applied to the

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* Roberts, "Urinary and Renal Diseases," p. 362.

† "Treatise on Albuminuria," 1881, p. 122.

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* "Ocular Therapeutics."

† "Diseases of the Eye."

‡ "Diseases of the Eye."

"Diseases of the Eye."

* "Diseases of the Eye."

† "Diseases of the Eye."

lachrymal sac with difficulty by myself and others had proved ineffectual, and was abandoned as useless. In treating him at a later time for ulcer of the cornea, a solution of atropine was employed. After a few days, improvement of the lachrymal disease was noticed, which continued until a cure was effected.

Case I.—A. W. called on me for treatment June 7, 1884, and stated that for several years he had been troubled with a swelling at the inner canthus and an annoying discharge. He had been under the care of specialists for two years. Bowman's operation had been performed, and probes passed into the nasal duct at intervals, without benefit. The lachrymal tumor was prominent, and was emptied by pressure over the sac through the lower canaliculus. A Bowman No. 4 was passed through the nasal duct with ease. Palpebral conjunctivitis was present, for which a solution of argent. nitras, gr. v, ad aquæ ℥j, was applied. An ointment of hydrarg. oxid. flav., gr. iv, ad vaseline, ʒij, was ordered to be applied to lids at night; also a lotion of acid. boric., gr. xvi, ad aquæ, ℥j, to be used three or four times daily. His visits were made at intervals of three days. Bowman's probe No. 6 was introduced each time after the first visit, and the treatment for the lids continued. After three weeks, there being no improvement, he became discouraged and left off treatment. In July he called, suffering from an ulcer of the cornea of the same eye, for which a solution of atropine was instilled and ordered for home use. Three days later he called again. The cornea was then in better condition. He remarked that the tear-sac trouble was much better, that the swelling was not so great, and that the secretion from the sac passed of itself into the nose. One week later he called. The cornea was entirely healed; the lachrymal disease had continued to improve. I ordered that the atropine be continued for two weeks, and that he should report again in a month, at the end of which time his cure was perfect.

Case II.—Mrs. C. called October 20, 1884, and stated that for three years she had been troubled with O. D. She complained of a swelling at the inner canthus, and an annoying discharge which blurred her vision. The tumor was emptied into the eye by pressure over the lachrymal sac. Two years ago she was under the care of a specialist. Bowman's operation was performed and probes were introduced into the nasal duct at intervals for some weeks, without benefit. One year ago the same treatment was resorted to, but failed to improve the condition. A Bowman's probe No. 4 was introduced into the nasal duct, but required some force to get it through. Conjunctivitis was present, for which a solution of argent. nitras, gr. v, was applied. Hydrarg. oxid. flav., gr. iv, ad vaseline, ʒij, was ordered as an application to the lids at night, and a lotion of acid. boric., gr. xv, zinci sulph., gr. ij, ad aquæ camph., ℥j, to be used two or three times daily; gtt. vj of a solution of atropin. sulph., gr. iv, were injected into the lachrymal sac.

October 24th.—Tumor less marked; secretion not so abundant; atropine solution, gtt. vj, injected into the lachrymal sac. Solution of argent. nit., gr. v, applied to the lids. Home treatment continued.

27th.—Marked improvement; lachrymal tumor less marked; contents of the sac pass readily into the nose. Treatment continued.

November 4th.—Reports to-day that she is not conscious of anything wrong; swelling has entirely disappeared. Treatment the same.

9th.—Patient seems to be completely cured, and says she thinks further treatment unnecessary. Atropine again injected.

27th.—Patient states that she is entirely relieved, and suffers no inconvenience whatever.

Case III.—Mrs. R. was under my care in 1882, suffering from chronic dacryo-cystitis, which had existed for about a year. Bowman's operation was performed at that time, and probes were introduced into the nasal duct at intervals of three days for several weeks without material improvement.

October 24, 1884.—She called and said she had determined to try again and persist, as I had told her that the disease was very obstinate and the treatment must be long continued. Examination showed marked distension of the lachrymal sac, which was emptied on pressure into the conjunctival sac. Bowman's probe No. 4 caught at the mouth of the lachrymal sac, but passed into it; probe not introduced into the nasal duct. Palpebral conjunctivitis was present, for which a solution of argent. nitras, gr. v, ad aquæ, ℥j, was applied; gtt. vj of a solution of atropin. sulph., gr. iv, were injected into the lachrymal sac. An ointment of hydrarg. oxid. flav., gr. iv, ad vaseline, ʒij, was ordered to be applied to the lids at night. A lotion of acid. boric., gr. xv, ad aquæ camph., ℥j, to be used as a wash for the eyes three or four times daily.

29th.—Very much improved. The discharge is less, and more watery; atropine solution injected, and a solution of argent. nit., gr. v, applied to the conjunctiva. Home treatment continued.

November 3d.—Continues to improve; slight watery discharge on pressure over the lachrymal sac. Treatment the same.

8th.—Complains of no trouble, but is anxious that the cure be complete. Treatment continued.

16th.—Patient seems to be entirely relieved. Atropine solution injected. Home treatment to be continued, and to return in three weeks.

December 16th.—Says that she suffers no inconvenience whatever, and is discharged cured.

While the cases reported give promise of further success in the treatment of this disease, the number is too small to warrant definite conclusions. The fact that the ordinary methods were fairly tried, and failed to effect a cure, makes it probable that atropine will at least be of benefit. The physiological effects of atropine are well known to the profession. The dryness of the skin, throat, and larynx, produced by its use, has been demonstrated clinically. The hectic sweats of phthisis, those of articular rheumatism, and profuse suppuration are more or less relieved by its administration. Local and unilateral sweats have been controlled by its topical application. Its efficiency as a remedy in the treatment of galactorrhœa is well known. The beneficial effects observed from its use in sialorrhœa and leucorrhœa make it probable that the experience observed in the cases reported will be borne out. The single objection to its use is that it seems impossible to apply it without causing dilatation of the pupil.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

Twenty-fourth Annual Report of the Cincinnati Hospital, 1884.

Open Letter from Dr. Edward W. Jenks to Dr. N. S. Davis, Editor of the "Journal of the American Medical Association."

Seventy-first Annual Report of the Trustees of the Massachusetts General Hospital and McLean Asylum, 1884.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.

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NEW YORK, SATURDAY, MAY 16, 1885.

THE EDUCATIONAL WORK OF THE ILLINOIS STATE BOARD OF HEALTH.

On several occasions we have shown our appreciation of the satisfactory working of the Illinois law governing the practice of medicine, as administered by the excellent Board of Health of that State. Year by year it becomes more evident that the enforcement of the law is having a good effect upon the great majority of the medical schools of the country. Of course we do not refer to the leading colleges, for they have continually shown a praiseworthy tendency to raise their standards, and in truth we believe that, so far as the conditions which prevail in our young country will allow, they may fairly be said to be abreast of European schools. Every observing man knows, however, that this is a college-ridden country, and particularly that at least six medical colleges exist where one is needed. Even if we restrict the statement to the non-sectarian institutions, we are convinced that it will be well within the limits of the truth. The prestige that accrues to a man from his being a "professor" has its money value, but the wide distribution of the honor has so narrowed that value down that its possessors can scarcely afford to allow their colleges to fall far short of being self-sustaining. Hence, on the one hand, the teaching appliances are too often cut down to the point of utter inadequacy, to the great detriment of the well-fitted and well-intentioned student; and, on the other hand, it is sought to swell the income not only by an inexcusable laxity in the acceptance of candidates, but even, we are forced to believe, by a resort to undignified and even disreputable means of attracting pupils. This state of things is tolerably well known to our European brethren, most of whom, we are sorry to say, seem to gloat over any and every pretext for throwing mud at us. The natural result is that the American profession as a whole comes in for an indiscriminate berating on almost every occasion. Not only are our real shortcomings dilated on—and we are always ready to admit that they are glaring enough—but new ones are invented for us, and we are seldom given the benefit of any doubt that, it is conceivable, may rise up before the foreign imagination. The files of our English contemporaries, in particular, fairly teem with censorious, not to say Pharisaical, criticism, and that criticism rests largely on false information or on an unfriendly and utterly unjustifiable conversion of mole-hills into mountains. Indeed, even when a semblance of brotherly feeling is made to appear, the beneficence we receive from our mentors is painfully suggestive of "such protection as vultures give to lambs." It is as if a loud-mouthed philanthropist, having come across a half-starved fellow-being, should hold him up to ridicule instead of feeding him.

Heretofore it has been of no avail to controvert the allegations of our critics—they have simply turned a deaf ear to our plea, and held doggedly to their own version of the facts; so that we had quite settled down to pocketing the obloquy that the English have seemed never to tire of hurling at us. Therefore we should not have mentioned the matter at such length now but for the fact that it forms the background of a most agreeable surprise—none other than an editorial article in a recent issue of the "Lancet" which shows not only a just appreciation of the true state of our predicament, but a most kindly spirit in dealing with it. If there is anything for which Americans may justly claim credit, it is that they are self-critical, and a people endowed with that tendency can never go far wrong. The "Lancet" has the fairness to appreciate that fact, and it frankly absolves the better part of the American profession from any community of feeling with the promoters of "diploma-mills." Such criticism as we find in the article is both welcome and wholesome. We feel justified in saying, however, that the general drift of what has been published heretofore in European medical journals about the defects of our educational methods has, if anything, rather added to our difficulties, since its manifest unfriendliness has but stiffened the necks of the obstructionists among us. The "Lancet's" article is founded on a document lately issued by the Illinois State Board of Health, the substance of which will be found in another column of this number of the "Journal," setting forth the devices to which some of the colleges resort for dodging the entrance examination. We congratulate the board upon having been so correctly interpreted by our English contemporary, and we trust that it will show no relaxing in the enforcement of its own wholesome rules.

THE DUTY OF REPORTING INFECTIOUS DISEASES TO THE BOARD OF HEALTH.

The correspondent whose letter we publish in another column, signed "Only a Doctor," is so well known to us as occupying a position in which he must necessarily be acquainted with much of the work done by the representatives of the Health Department, and we have so much reason to look upon him as a fair-minded observer, wholly free from captiousness, that we can not set up a general denial of the accusations which he brings against the sanitary officials of New York, or feel called upon, as he suggests, to ask for confirmation of those accusations at the hands of our readers. We presume it must be admitted that the conduct of the officials in question has not always been in every way what it should have been. Speaking of the acts of individual officials, and not at all of the general policy of the Department (which we may say, by the way, we regard as by no means above criticism), the statements made by our correspondent reveal a state of things that we had not suspected, and one of which the revelation is decidedly unpleasant. In so many instances have we had positive knowledge of the tact and forbearance—not to restrict it to mere courtesy—shown by the officers of the Board of Health that we must suppose the facts to which our correspondent alludes are quite exceptional.

It is within our positive knowledge, too, that practitioners of unquestioned skill and experience in the general run of medical practice do not always disdain the assistance of a sanitary inspector in the diagnosis of doubtful cases of small-pox, for example. Such assistance, we believe, has generally—so far as we know, always—been rendered courteously, modestly, and satisfactorily, often at great personal inconvenience to the inspector. Indeed, it has not been uncommon for such an officer to travel miles into the country to aid a professional brother in deciding upon the nature of a suspicious case, and that, too, when there was no personal motive, and when the circumstances utterly forbade the thought that the sanitary interests of the city of New York were involved. Many of these inspectors, we are persuaded, have thus fairly earned consultation fees that have never come within their grasp. These things should be remembered in the face of isolated accusations of misconduct.

On one point we grant that our correspondent is entirely right. The Board of Health is utterly unwarranted in using the loose phraseology of which the section of the Sanitary Code referred to in its recent resolution is an example. The board seems wedded to the expression "contagious diseases," apparently ignoring the fact that not only those diseases which our correspondent mentions, but also itch, ringworm, and a number of other affections of no moment to the community at large are properly included under the term. Of course the board would have no decent pretext for compelling physicians to report their cases of these ailments; indeed, with regard to some of them, it is questionable if it would have the legal right to do so. The diseases that are manifestly dangerous to the community should have been specified in the code. Even in this matter, however, it must be said that it is only in its forms of expression that the board has erred, and it may be added that it has never sought to compel physicians to report their cases of local contagious diseases. As regards varicella, we think the board is justified in demanding reports. It should be borne in mind that not every physician in New York is such an accomplished diagnostician as our correspondent, and a return of varicella may often be the only guide our sanitary guardians have to a case of the disease that is sometimes strikingly like chicken-pox in its manifestations, but in gravity differing from it as night from day.

But, granting the full force that our correspondent attaches to all his statements—assuming that physicians are ill-treated by the sanitary officials—we still maintain that that is no excuse for a violation of the law. The Sanitary Code, interpreted by usage rather than by a strict construction of its words, is not simply defensible; it is necessary. The Health Department must be informed constantly of the prevalence of dangerous infectious diseases. It is vital to the public welfare. We can not, therefore, reconsider our opinion.

MEDICAL EDUCATION IN THE UNITED STATES.

Apropos of the handsome manner in which the "Lancet" handles this subject, as we have stated in another article, it is pleasing also to recall the fact that another of our London contemporaries, the "Medical Times and Gazette," not long ago gave a very satisfactory explanation of certain of its utterances on the matter that at the time of their appearance we had taken exception to as not quite justified by the facts. The journal in question did not, it is true, take back its statements as to facts, but it drew the sting from its comments, nevertheless. It was a pleasure to us to notice the prompt and chivalrous way in which the thing was done, and we intended to acknowledge it before. At the outset, it was not so much to the "Times and Gazette's" statement as to the facts that we objected as to its apparent zest in dwelling upon the dark side of the picture. We have no desire to cover up abuses in our system of professional education; in fact, we have never shown mercy to shams. All that we ask of foreign critics is, that they will give up that view of American society which was popularized by the late Mr. Dickens, and not judge institutions which are still in a transition state by those which are venerable by reason of their age.

The respect which we feel, and have so often expressed, for European medical colleges, especially the English, and for the men who have been trained in them, does not prevent us from recognizing the fact that the majority of the graduates of English and German schools make but a poor showing when they settle among us, apparently for the reason that they have too much "book-learning" and too little of what our Yankee ancestors used to call "hard sense." Now, for this very reason we venture to suggest that, imperfect as our methods of medical education too often are, they meet the wants of the community far better than many of our foreign censors would have their readers believe. It can not be denied that the opportunities which a man has in this country for educating himself after graduation are unsurpassed, or that not a few of the most honored members of our profession have become what they are as the result of this very process of self-education, while, if they had had at the beginning the prestige conferred by a London M. B., they would never have been incited to rise above mediocrity.

MINOR PARAGRAPHS.

THE USE AND ABUSE OF OÖPHORECTOMY.

A recent number of the "Medical News" contains a letter from Mr. Lawson Tait, in which he replies to an editorial that appeared in the "News" on the subject of the use and abuse of oöphorectomy. Mr. Tait protests, and very properly, too, against "names of persons being attached to operations." He makes the important statement that, although disease of the tubes can in many cases be diagnosticated, it is very difficult to determine beforehand the exact pathological condition. We are glad to see that Mr. Tait makes a careful distinction between the removal of diseased ovaries and that of the tubes. This is a point that is not always kept in view in this country. In a large number of cases Tait's operation means with us the removal of cystic ovaries and *perfectly healthy* tubes. We cordially agree with the distinguished surgeon that, although we have caught his spirit, we do not always exercise his care either in diagnosis or in the use of terms. Our loose way of writing detracts decidedly from the value of some of our scientific papers. It is a good thing to be reminded of these faults occasionally.

RESECTION OF THE PYLORUS.

The evidence for and against this operation may be said to be fairly in. At the recent congress of German surgeons, von Hacker announced that, of eighteen cases in which Professor Billroth had performed resection of the pylorus, there was but a single one in which the result could be called favorable. Such a confession as this should forever settle the question in the mind of any American surgeon whose humanity has not yielded to his eagerness to try new operations.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 12, 1885:

DISEASES.	Week ending May 5.		Week ending May 12.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	0	0	3	0
Typhoid fever	12	6	8	3
Scarlet fever	68	14	82	12
Cerebro-spinal meningitis	8	7	8	7
Measles	141	20	142	22
Diphtheria	58	23	52	24

The late Dr. Edward T. Ely.—At a meeting of the New York Ophthalmological Society, held on Monday, May 11, 1885, the following report in regard to the death of Dr. E. T. Ely was adopted by the society and ordered to be placed on the minutes, and a copy sent to his family and to the "New York Medical Journal" and the "Medical Record."

"The members of the New York Ophthalmological Society herewith record their deep sense of the loss they have suffered by the death of their late associate, Edward Talbot Ely. Dr. Ely was elected a member of this society in 1876. He became secretary in 1880, and discharged the duties of that position with exactness and ability. His contributions to the discussions of the society were always well-considered and of value. In all their relations with Dr. Ely the members of the New York Ophthalmological Society found him an interesting companion and a worthy representative of scientific medicine, and, while they deplore his untimely death, they felicitate themselves that he lived long enough to add something to the vast and ever-growing structure of human knowledge, and to leave behind him an honored name."

[Signed.] D. B. St. John Roosa, } *Committee.*
David Webster,
John D. Rushmore,
J. B. Emerson, *Secretary.*

The New York County Medical Association.—The next meeting of the association will be held Monday evening, May 18th, at the new Carnegie Laboratory, 338 and 340 East Twenty-sixth Street. The following is the order of exercises: 1. Advances in the Study of the Ætiology of Disease, by E. G. Janeway, M. D. 2. Presentation of Specimens of Ulcerative Endocarditis and of Abscess of the Liver, by E. G. Janeway, M. D. 3. Demonstrations of the Three Comma Bacilli, by H. M. Biggs, M. D. 4. Exhibition, at the request of Dr. William H. Greene, of Philadelphia, of an Apparatus for determining the Proportion of Urea in the Urine, by Austin Flint, Jr., M. D., LL. D. 5. Demonstration of a New Portable Incandescent Lamp, with Universal Illuminators for Dark Cavities; also the Combined Electric Light and Tongue Depressor for Laryngoscopic Examinations, and Improvements on the Grenet Battery, with Introductory Remarks, by the President. 6. Executive Session.

The College of Physicians and Surgeons held its seventy-eighth annual commencement in Steinway Hall on Tuesday evening, the 12th inst., and the degree of doctor in medicine was conferred on a class of one hundred and thirty-four candidates.

The Section in Theory of Medicine of the New York Academy of Medicine will hold its next meeting at the hall of the Academy on Tuesday evening, May 19th, at eight o'clock. The announcement of exercises is as follows: 1. The Irregular Manifestations of Malaria, by Andrew H. Smith, M. D.; the discussion to be opened by Dr. E. D. Hudson, Jr., and Dr. L. Emmett Holt, and continued by others until 9.15 P. M. 2. Topic for discussion: The Sources of Infection and Limits as to Time of the Infections of Scarlet Fever and Measles; general discussion (each speaker limited to ten minutes).

The Illinois State Medical Society will hold its thirty-fifth annual meeting at Springfield, beginning on Tuesday, May 19th. Reports of committees are expected to be read as follows: Practical Medicine, by Dr. Norman Bridge, of Chicago, Dr. C. H. Norred, of Lincoln, and Dr. J. R. Livingood, of Rossville; Surgery, by Dr. W. A. Byrd, of Quincy, Dr. D. A. K. Steele, of Chicago, and Dr. Cass Chenowith, of Decatur; Obstetrics, by Dr. C. W. Earle, of Chicago, Dr. T. D. Washburn, of Hillboro, and Dr. A. S. Adams, of Peoria; Gynæcology, by Dr. David Prince, of Jacksonville, Dr. S. H. Stevenson, of Chicago, and Dr. O. B. Will, of Peoria; Materia Medica and Therapeutics, by Dr. T. M. McIlvaine, of Peoria, Dr. J. F. Todd, of Chicago, and Dr. C. Miller, of Lincoln; Ophthalmology and Otology, by Dr. W. T. Montgomery, of Chicago, Dr. C. R. Park, of Bloomington, and Dr. R. Tilley, of Chicago; Necrology, by Dr. E. Ingals, of Chicago, Dr. W. Hill, of Bloomington, and Dr. M. F. Bassett, of Quincy; Laryngology, by Dr. E. F. Ingals, of Chicago; Oral Surgery, by Dr. J. S. Marshall, of Chicago; Pædiatrics, by Dr. A. F. Rooney, of Quincy; Dermatology, by Dr. W. J. Maynard, of Chicago; Orthopædic Surgery, by Dr. C. E. Webster, of Chicago; Tetanus, by Dr. C. Truesdale, of Rock Island; Insanity, by Dr. R. J. Patterson, of Batavia; Alcohol as a Therapeutic Agent, by Dr. M. F. Bassett, of Quincy; Effects of Malaria in Puerperal Cases, by Dr. H. Judd, of Galesburg; Physiology, by Dr. A. Wetmore, of Waterloo; Treatment of Epilepsy, by Dr. D. R. Brower, of Chicago; The Diagnostic Peculiarities of Malignant Growths, by Dr. C. Fenger, of Chicago; Simple Renal Catarrh, by Dr. I. N. Danforth, of Chicago.

The New York Post-Graduate Medical School and Hospital.—Dr. B. F. Dawson informs us that his resignation as professor of diseases of women has been accepted by the faculty.

The Children's Hospital on Randall's Island.—Dr. George B. Fowler has been appointed a visiting physician to the hospital.

The Woman's Hospital of the State of New York.—Dr. Arthur B. Townshend has been appointed an assistant surgeon, succeeding Dr. Guy C. Bayley.

The Plymouth Endemic, having been investigated by competent physicians, including so careful an observer as Dr. E. O. Shakespeare, of Philadelphia, is now announced to be typhoid fever.

The Department of Public Charities and Correction.—The Mayor has appointed Dr. Charles E. Simmons to be one of the board of commissioners.

Charity Hospital.—It is announced that Dr. Alexander B. Mott has been appointed one of the consulting surgeons to the hospital.

Small-pox in Montreal.—As we go to press several cases are reported, from various quarters of the city, and it seems that, unfortunately, there is at present a great tendency for trifling wounds to take on an erysipelatous action, so that caution has to be exercised in the matter of vaccination, notwithstanding the danger of a small-pox epidemic.

The Philadelphia Polyclinic.—Dr. B. F. Baer, president of the Obstetrical Society of Philadelphia, and late demonstrator of diseases of women in the University of Pennsylvania, has been elected professor of diseases of women in the Polyclinic. Dr. H. Augustus Wilson has been elected professor of fractures and dislocations in the same institution, and secretary of the faculty.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 3, 1885, to May 9, 1885:*

Bill, Joseph H., Major and Surgeon. Ordered for duty as Member of Army Medical Examining Board, New York city, N. Y. S. O. 100, A. G. O., May 2, 1885.

Spencer, William G., Captain and Assistant Surgeon. From Department of the East to Department of Dakota. S. O. 100, A. G. O., May 2, 1885.

Brechemin, Louis, Captain and Assistant Surgeon. From Department of the East to Department of the Platte. S. O. 100, A. G. O., May 2, 1885.

Davis, William B., Captain and Assistant Surgeon. From Department of Dakota to Department of the East. S. O. 100, A. G. O., May 2, 1885.

Sternberg, George M., Major and Surgeon. Detailed to attend, as a delegate on the part of the Government of the United States, the Sanitary Conference to be held at Rome, Italy, on May 15, 1885. S. O. 103, A. G. O., May 6, 1885.

Cowdray, Stevens G., Captain and Assistant Surgeon. Assigned to duty as Post Surgeon, Fort Bliss, Texas. S. O. 65, Department of the Missouri, May 2, 1885.

Wyeth, M. C., First Lieutenant and Assistant Surgeon. Ordered for temporary duty at Fort Wadsworth, New York Harbor. S. O. 95, Department of the East, May 6, 1885.

Society Meetings for the Coming Week:

Monday, *May 18th:* New York County Medical Association; New York Academy of Sciences (Section in Geology and Mineralogy); Medico-Chirurgical Society of German Physicians, New York; Medical Society of Monmouth County, N. J. (Freehold); Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *May 19th:* Illinois State Medical Society (Springfield); New York Academy of Medicine (Section in Theory and Practice of Medicine); Medical Society of the County of Kings, N. Y.; Roman Medical Society, New York (private); New York Obstetrical Society (private); Ogdensburg, N. Y., Medical Association; Hampden District, Mass., Medical Society (Springfield).

Wednesday, *May 20th:* Northwestern Medical and Surgical Society, New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society (Clinico-Pathological).

Thursday, *May 21st:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *May 22d:* New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *May 23d:* New York Medical and Surgical Society (private).

Letters to the Editor.

THE BOARD OF HEALTH AND ITS INFECTIOUS DISEASES ORDER.

May 10, 1885.

To the Editor of the New York Medical Journal:

Sir: In your current number you take occasion to comment rather severely upon those physicians who have seen fit to disregard the regulations of the Board of Health in regard to the reporting of cases of contagious disease, and to concur, apparently, with that board in its dealings in this matter. I beg to intimate that the actions of that bureau of this body which is charged with this subject have not inspired the medical profession with such an opinion of its fitness for its work as to render compliance with its regulations other than perfunctory. Do you recall the case of the priest who died last winter of remittent fever as certified to by two most estimable and able physicians? The gentleman who is quoted by you as saying "the number of cases of contagious disease, etc., etc., are [*sic*] so out of proportion," etc., this gentleman, without having seen either the patient or his physician, did not scruple to talk on the subject to reporters of the secular press very volubly, doing all that he could to discredit the two doctors before the community, merely by reason of his own suspicions which events certainly did not justify. So many instances have come to my notice of incompetency and discourtesy like this on the part of officials of this board in regard to matters of this kind, i. e., contagious diseases, and so prone are they to utilize the daily press in their attacks upon physicians and hospitals, that it seems only right to remonstrate against the arbitrary power with which they are clothed and their very discourteous use of that power. If you desire damning facts, I believe that you have only to call for them from your subscribers and they will be forthcoming. It is certainly quite true that competent physicians do not desire the assistance of *these* gentlemen; and it is equally indubitable that physicians have been treated by them with gross discourtesy.

Cases of contagious disease of dangerous character should certainly be reported to the proper authorities; but to report a case of varicella only to have the privacy of the patient intruded upon by an insolent official who implies a doubt of your ability to distinguish it from small-pox and shakes the faith of the family in your skill, is more than New York physicians care to endure. According to this order of the board, that you give in your current issue, I must report every case of clap or syphilis that comes under my care. Is not this preposterous? Really, Mr. Editor, will you not reconsider your opinion a little?

Only a Doctor.

Proceedings of Societies.

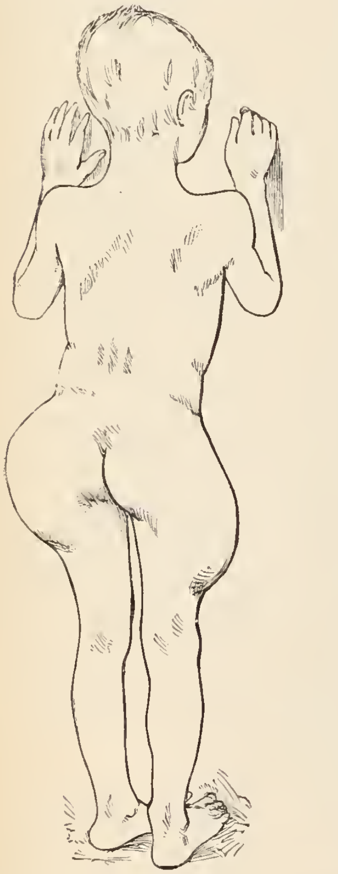
NEW YORK SURGICAL SOCIETY.

Meeting of April 28, 1885.

The President, Dr. Robert F. Weir, in the Chair.

Complete Paralysis of the Right Trigeminal Nerve.—Dr. T. M. Markoe presented a man, about fifty-five years of age, whose case was interesting principally from an anatomical and physiological point of view. The patient denied positively any syphilitic antecedents, and there was nothing at present calculated to excite suspicion except some superficial ulcers on the lower part of the leg. About eight years ago he began to have pains on the right side of the head, which, in the course of two years, took on a severe neuralgic character, the entire right side of the face being affected. The neuralgic character of the pains subsided gradually, and gave place to a feeling of numbness and insensibility on that side of the face. There was now complete anæsthesia in the region of distribution of the right trigeminal nerve. The sensation in the tongue had been carefully tested by application of chloroform and nux vomica, and complete insensibility was found to exist upon the right side, while sensibility on the left side appeared normal. The right eye was also insensitive to the coarsest touch. The man could rub his finger over the cornea without feeling it. In addition to paralysis of sensation, there was also paralysis of the muscles supplied by the trigeminal, the temporal and the masseter muscles being very markedly atrophied. Mastication was exclusively performed by the muscles of the left side. Nutrition seemed to be perfectly maintained in all the paralyzed parts, but about two years ago a little pimple formed on the margin of the right ala nasi, which ulcerated slightly and then disappeared. Following this, however, there had been a gradual disappearance of tissue about the ala, until now it was almost entirely absorbed, leaving a large and deforming opening into the side of the nostril.

In considering the probable seat of the lesion of the trigeminal nerve, Dr. Markoe thought it must lie between the emergence of the nerve from the pons Varolii and its entrance into the Casserian ganglion. If the lesion was within the brain or pons, there probably would be other manifestations. Attention was also called to the scarcity of the mustache on the right side, and to its lighter color.



Unusual Abscesses connected with Spinal Disease.—The President presented a boy, eight years of age, who exhibited unusually large abscesses over the trochanters and upper two thirds of both thighs, resulting from a spinal disease in the lumbar region. The latter began four years ago, and two years later the swellings over the anterior portion of the external iliac and trochanteric regions began to make their appearance, and increased in size until at present they were each as large as a loaf of bread. Examination per rectum showed that the matter had worked its way down on either side of the projecting surfaces of the sacrum, and had passed out through the sciatic notch.

Dr. Lange asked what was the proposed form of treatment.

The President replied that, inasmuch as the abscesses were increasing in size and the patient's condition deteriorating, he intended to open and drain them, one at a time, under full antiseptic precautions.

Dr. R. W. Amidon, by invitation, read a paper on Atropine in Ether Narcosis.

Biliary Calculi; Perforation of the Duodenum; Abscess.—Specimens were presented by Dr. George A. Peters, who read the following clinical history:

Elizabeth B., aged seventy-seven years, born in Scotland, a widow, was admitted into St. Luke's Hospital January 13, 1885. Her family history was negative. Three months before her admission she had an attack of sharp pain, followed shortly after by a swelling in the right iliac fossa, which was quite painful on pressure. The pain seemed to run toward the median line into the bowels; it was worse at night. She said that on her admission the swelling was softer, smaller, and less painful than it had been. Examination revealed a prominent swelling in the right iliac region, tender, and distinctly fluctuating. The skin was normal. The right thigh was readily flexed on the abdomen.

January 16th.—The patient was etherized, and Dr. Abbe incised the tumor and let out a considerable quantity of greenish-yellow pus. A number of small trabeculæ were broken down. No communication could be detected with the vermiform appendix or any internal organ. An antiseptic dressing was applied.

April 4th.—From this time until April 4th the discharge continued, and a probe occasionally introduced discovered only a small cavity beneath the skin, although a free discharge of pus in the daily dressings indicated a deeper secreting cavity. On April 4th Dr. Peters enlarged the wound, the patient being etherized. After considerable careful searching, the probe dropped into a narrow sinus, downward and inward. This sinus was enlarged, and a small steel searcher was introduced, which could be readily swept about in a large cavity, apparently limited by peritonæum toward the median line. The finger in the wound readily detected the lower edge of the right lobe of the liver, and to its inner side the peritonæum. A rubber drainage-tube, about three inches long, was introduced and stitched to the skin. The edges of the wound were united by a continuous suture of catgut. About a pint of solution of bichloride of mercury, 1 to 2,000, warm, was used for irrigating the cavity, and most of this fluid ran out again. An antiseptic dressing was applied. The abdomen became distended and painful.

April 5th.—The pain and distension were much less, and the temperature was normal. At 6.30 p. m. she suddenly collapsed, and did not respond to the free hypodermic administration of brandy. She died of heart failure at 3.30 a. m. on the 6th.

Autopsy, by Dr. Frank Ferguson.—The body is fairly nourished. Rigor mortis is well marked. There is no œdema. There is an incision commencing just in front of the right axillary line, opposite the free border of the ribs, and extending downward and inward a distance of three inches. This incision communicates with a cavity in the abdominal wall of the right hypochondriac region, measuring, when distended, an inch and a half in length and an inch in breadth, of oval shape. A drainage-tube, three inches in length and half an inch in diameter, passes from the incision above described into a compartment within the peritoneal cavity. A sinus extends from the upper limits of the cavity through which the drainage-tube passes, and communicates with the gall-bladder, which is filled with biliary calculi. This sinus is two inches and a half in length, and admits a probe an eighth of an inch in diameter. Section through the abdominal wall in the median line reveals the following conditions within the peritoneal cavity:

The liver and diaphragm are adherent by loose old adhesions, but the anterior edge of the liver is firmly united to the free edge of the costal cartilages in the right hypochondrium.

The ascending colon is buried beneath the liver, and at the hepatic flexure the colon sharply turns upon itself, forming an acute angle, and passes forward and to the left. The portion of colon thus passing forward is distended and firmly united to the lower surface of the liver. The mesocolon of the transverse portion of the large bowel is quite long, and this portion of the colon forms a horseshoe curve, reaching nearly to the brim of the pelvis. The descending arm of this curve is attached to the spinal column by a broad, thick, loose plane of omentum. The omentum attached to the transverse colon elsewhere, and arising from the lower border of the stomach, covers in the intestines everywhere, and is attached by firm old adhesions on the right side to the canal of Nuck.

From this it will be seen that there is a compartment within the general peritoneal cavity, limited above by the first portion of the transverse colon, distended and adherent to neighboring viscera; in the median line by the plane of omentum above described; below by the union of the omentum to the canal of Nuck and the portion of the intestines in that region of the peritoneal cavity. The surfaces of intestine within the peritoneal cavity and the parietal peritonæum are covered by recent lymph. The diaphragm is on a level with the fourth rib on the right side, with the fifth rib on the left side.

There are old adhesions at the apices of both lungs, but no fluid in either pleural cavity. The heart is small, and brownish in color. There is slight atheroma of the aorta, also of the segments of the mitral and aortic valves. The lungs and the spleen are normal.

The kidneys are smaller than normal, their capsules are adherent in places, and the markings are not very distinct. There are a few small cysts in the cortex of each organ. Under the microscope the epithelium shows extensive fatty degeneration.

The mucous membrane of the stomach is normal. The pylorus is normal. An inch below the pylorus there are two openings in the wall of the duodenum, separated by a thin band of mucous membrane, and each opening admits a probe a quarter of an inch in diameter. The probe readily passes through these openings into the gall-bladder, as there is firm union between it and the first portion of the duodenum; thence through the sinus above mentioned into the cavity in the abdominal parietes of the right hypochondrium; thence through the incision already alluded to.

The cystic duct is impervious. There are several small calculi in the hepatic duct, the orifice of which is normal in size. The gall-bladder contains nineteen calculi of various sizes, some of them as large as a walnut and presenting several facets. There is a slight increase in the fibrous tissue of the liver. The biliary ducts are dilated moderately. The central vessels are greatly distended with blood, and there are hæmorrhages in the liver tissue in places.

The mucous membrane of the intestines is normal except as above stated. The uterus is smaller than normal. The ovaries are atrophied.

AMERICAN MEDICAL ASSOCIATION.

SECTION IN OBSTETRICS AND DISEASES OF WOMEN.

Dr. R. S. SUTTON, of Pittsburgh, Pa., Chairman.

The Treatment of the Secundines in Abortion and Labor was the title of the first paper, by Dr. W. H. WATHEN, of Louisville. The management of cases when portions of the membranes remain in the uterine cavity, in abortion, premature labor, and labor at term, was still a subject with regard to which great latitude of opinion existed. There were three general methods: (1) the expectant; (2) the immediate removal; (3) an intermediate course. During the first two months the placenta did not exist; the membranes were innocuous, and hæmorrhage was rarely dangerous. It was advisable, therefore, in abortions occurring at this time to use no violence in the extraction of the membranes. From the third to the end of the seventh month the membranes must be removed, whether the cervix was dilated or closed. When the cervix was dilated the finger was sufficient; when it was contracted, he was in the habit of using a modification of Scanzoni's dilator. The membranes might be removed by the finger, the forceps, or the curette. In the absence of any instrument, an ordinary piece of copper or iron wire was useful. In abortion and premature labor it was necessary to examine the product of conception very critically, as separation might occur between the amnion and the chorion, and the placenta be retained, as had recently been pointed out by Dr. Sawyer, of Chicago. The placenta, at full term, if not spontaneously expelled within thirty minutes after the birth of the child, must be removed by combined expression and traction on the cord.

Dr. JAMES R. CHADWICK, of Boston, said it was impossible to formulate any rule applicable to all cases. During the early months he regarded the history of the case. If the patient was a "bleeder," he took more active steps than if she was not. The number of abortions and the condition of the woman's health must also be noted. He had never seen a placental forceps that was of the slightest value. The finger was a much better means of dilating the cervix than Scanzoni's steel instrument.

Dr. GREEN, of Kentucky, narrated the history of a case; he pursued the intermediate course of treatment.

Dr. SINCLAIR, of Boston, thought the secundines ought to be removed at the earliest possible moment. Immediate delivery was his maxim. The fibers of the cervix would yield to gentle, continuous pressure with the finger in from six to eight minutes, and then it was very easy to dilate the canal.

Dr. CARROLL, of Texas, said it was not enough that the ovum and its envelopes should be removed; frequently the presence of a decidual thread or clot of blood within the uterine cavity would give origin to troublesome hæmorrhage. He would not hesitate to use Ellinger's dilator, if required, but seldom found it necessary.

Dr. WATHEN closed the discussion by saying that he only used Scanzoni's dilators in extreme cases, in which digital dilatation had failed.

Pelvic Peritonitis; Suggestions as to its Causes, Recognition, and Treatment.—A paper with this title, by Dr. W. M. POLK, of New York, was read by title.

Parametric Abscess.—Dr. W. W. POTTER, of Buffalo, read a paper, in which he narrated the history of a case of acute parametric abscess.

Chronic Perimetric Abscess; its Treatment by Laparotomy, was the subject of the next paper, by Dr. CHRISTIAN FENGER, of Chicago. It was read by Dr. W. W. JAGGARD, of Chicago.

Discussion.

Dr. G. J. ENGELMANN, of St. Louis, said that inflammation of the pelvic connective tissue was by no means confined to the puerperal state. The diagnosis of the condition was of vital importance. Laparotomy should be the *last*, but not a *late*, expedient.

Dr. S. C. GORDON, of Portland, Me., said that physicians were responsible for one half or two thirds of all cases of pelvic peritonitis. The indiscriminate introduction of sounds and applicators, along with carbolic acid and iodine, was an important ætiological factor. Prophylaxis was more important than cure.

Dr. Reed, of Ohio, narrated the histories of three cases of chronic perimetric abscess. Two of the patients died; one survived, in a deplorable condition. He thought Dr. Gordon's statement too sweeping.

Dr. Quinby, of Jersey City, referred to the late Dr. Gurdon Buck's incision from the anterior-superior spinous process of the ilium to Poupart's ligament. He had operated by this method with success in one case.

Dr. Carroll, of Texas, said Dr. Gordon's ætiology of pelvic peritonitis might be the true one in New England; it certainly was not in Texas.

Dr. W. W. Jaggard, of Chicago, referred to Dr. Byford's stricture on Dr. Fenger's paper, in regard to abscesses which have opened into the rectum. Dr. Byford was of the opinion that such an opening could be dilated through the rectum; and evacuation of the cavity secured, by a less radical operation than laparotomy. Schröder had successfully performed the *sectio alta* in a case in which the bladder had been perforated.

The Chairman related the history of a pelvic abscess upon which he had operated a few weeks previously. In cases in which the sac could not be united to the abdominal wall, the best plan was to scrape the cavity, fill it with iodoform, and close the wound.

How soon after Exposure to Sepsis may the Accoucheur resume Practice? was the title of a paper by Dr. George F. French, of Minneapolis. Letters of inquiry had been addressed in October last to some of the most distinguished medical men in this country and in Europe, of which the following was the substance: "How soon after exposure to sepsis may the accoucheur safely resume practice? My purpose is to controvert the opinion, which obtains in the profession, that time is an essential element in the cleansing process. I have had an experience which emboldens me to make abdominal section on the day following exposure. I greatly desire to know whether your own experience warrants me in pursuing such a course."

In reply, Thornton, Savage, and Hegar wrote that they believed time was essential, to be accompanied, of course, with careful cleansing. Emmet, Battey, Marcy, Goodell, and Thomas, in our own country, with Martin, Schröder, Nussbaum, Volkmann, and Esmarch, in Europe, wrote that they believed time to be entirely non-essential, and that thorough disinfection could be accomplished at once.

In June, 1884, Dr. French, after laying open a dissecting abscess of the thigh, in a pyæmia patient, and stripping the limb with both hands till they were offensively drenched with the pus, had carefully disinfected himself and three hours later attended a patient in confinement.

The conclusion to be drawn was admirably expressed in the words of Esmarch: "If you have thoroughly disinfected yourself, you can immediately enter upon obstetric practice. Time does not destroy septic dirt."

Dr. Battey, of Georgia, said that lapse of time had an effect as securing ventilation. Water was an excellent antiseptic. He did not believe it was wise to cover up one stink by another, with the idea of annihilating septic materials.

Dr. Hale, of Illinois, thought the influence of time was slight.

Dr. Upperman, of Vermont, was of the opinion that time did not exert an essential influence.

An Interesting Case of Subserous Fibroid Tumor of the Uterus was the title of a paper by Dr. Paine, of Texas. The patient, an unmarried school-teacher, forty-three years old, commenced to complain two years ago of pelvic pain, and at the same time noticed a tumor in the abdomen. The tumor grew rapidly, encroaching upon the abdominal viscera, and seriously impeding respiration. Under heroic doses of ergot (ten grains of Squibb's aqueous extract, three times daily, hypodermically, as a maximum), kept up for a year, the tumor had rapidly grown less in size, and the woman was able to resume her avocation.

Dr. Nelson, of Chicago, could indorse the words of Dr. Paine, in his praise of ergot in fibroids, before adhesions to the omentum and the viscera had formed. The dose must be large, and kept up through a considerable period of time.

The Improved Technique in Gynæcological Operations, Minor and Major, was the title of a paper read on the second day by Dr. G. J. Engelmann, of St. Louis. He called attention to the use of Simon's specula, with the woman in the lithotomy position; the use of continuous hot-water irrigation (115° to 125° F.); and the employment of semicircular needle and silk sutures.

A New Speculum and a New Vaginal Irrigator were described by Dr. T. M. Healy, of Cumberland, Md. He exhibited the speculum, and showed its action upon a patient before the Section. The speculum was a Sims's blade fastened by steel ribs, with a ball-and-socket joint, to a sacral pad. The speculum was self-retaining. The new vaginal irrigator was a corrugated, conical glass tube, with a rubber diaphragm, with two perforations—one for delivery, the other for escape.

Dr. N. J. Nunn, of Savannah, Ga., read a paper entitled **The Multiple Speculum Uteri, and an Improved Dressing Forceps.**

Dr. Orto, of Texas, exhibited **A New Speculum Uteri.**

The Role of Bacteria in Parturition.—Dr. Henry O. Marcy, of Boston, read a paper on the old topic of puerperal fever viewed in the light of bacteriology. The years spent by him in the study of micro-organisms and their relation to surgical lesions had borne fruit in other and important directions, as evinced by his contributions during the last year upon the relations of bacteria to infectious diseases, etc. The underlying thought in the present contribution was that normal labor was a physiological process, and, as such, aseptic; hence antiseptic injections were unnecessary and, beyond the securing of cleanliness, meddlesome, even, as shown by a number of instances, in the hands of the most expert, dangerous and fatal. When the labor departed from the normal character a new factor was introduced. In instrumental labors, and where the hand was introduced into the uterus, the risks were of necessity not unlike those incident to any surgical operative procedure. The uterus in most labors was subject to lesions upon which infection might easily be supervened, and then the puerperal state made most favorable conditions for the rapid development of micro-organisms—a favorable soil for growing most dangerous seed. In such cases all antiseptic precautions should be taken as in a major surgical operation. He thought it was the micrococcus, or round-cell growth, which proved the dangerous element. He adduced a number of experimental observations and cultivation tests to show this. It was the more important practically since these growths, at the most, only gave off in their development a slightly sour smell, and were wanting in the usual odors of decomposition, to which so much importance was usually attached. The practical deductions were much the same as in all infected wounds. He had treated the uterine cavity under such conditions as he would an infected, suppurating, sloughy wound. He did not hesitate to remove carefully with a blunt curette any irregular placental masses, and apply liquefied carbolic acid. This, he thought, served a wider purpose than the simple destruction of germs, since it coagulated the albuminoids and acted as a local stimulant. He also often introduced a considerable quantity of iodoform into the uterus.

Vaginal Hysterectomy for Cancer was the title of a paper by Dr. A. Reeves Jackson, of Chicago. A surgical procedure, he said, to be beneficial, should relieve suffering and prolong life. If it failed to effect either of these results, it was useless. If it destroyed more lives than it saved, it was injurious, and should be abandoned. A table, based upon 256 cases of vaginal hysterectomy, compiled by Dr. P. F. Mundé, showed a mortality of only 24·6 per cent, while the results of the operations performed by Martin, Schröder, and Olshausen—*all of whose cases were published*—show a much higher rate of mortality, namely, 38·6 per cent. in 101 operations. This discrepancy was explainable by the fact that such tables as Dr. Mundé's were based upon incomplete returns, the successful cases being published and the unsuccessful ones suppressed. Figures would not lie if they had a fair chance. If the whole truth in relation to this matter were known, the mortality of the operation would be found much greater than it now appeared. Taking even the foregoing most favorable report, vaginal hysterectomy had actually destroyed nearly one hundred years of life. If all the cases were published, the amount of destruction would appear much greater.

There was nothing to offset this. It had yet to be shown that a single life, otherwise doomed by the disease, had been saved by the operation. The history of the operation did not afford ground for hope that improved methods in its performance would materially better the results. Schröder's greatest success had been obtained in his first eight cases, with a mortality of 8·7 per cent.

The dangerous character of the operation was not the gravest charge against it; it did not benefit those who recovered. The disease recurred in all, sooner or later, and their sufferings, which had at best only been interrupted, were as severe as before. In short, the patients gained nothing, and died, on the average, sooner than if let alone. Of all the methods of treatment which had been used for uterine cancer, hysterectomy had given the worst results, both immediate and remote, and the statistics seemed to show that it had killed more rapidly than the disease itself.

Schröder, Mundé, and others thought that vaginal hysterectomy should be restricted to cases in which the cancer was limited to the cervical mucous membrane, or to the body of the uterus. These limitations were proper, but impracticable. It was quite impossible, in the present state of our art, to make the subtle diagnostic distinction which they implied. There were no means by which the extent of cancerous involvement could be known in any given case. The unreliability of Schröder's method by digital touch alone was shown clearly by the rapid and numerous recurrences of the disease which had followed his own operations. When cancer affected the cervix uteri, extirpation was improper, because unnecessary. Supra-vaginal amputation, with a mortality only one fourth as great, did all that could be done by total removal. The diagnosis of cancer of the body was always difficult and frequently impossible in the only stage in which extirpation could be proper or useful. Here, too, the disease was of much longer duration and less painful than when it attacked the cervix, so that a highly perilous operation was not justifiable. The so-called "palliative" operations were not only less fatal in all forms and locations of the disease, but more lasting in their good results than the "radical" operation.

Any operation for cancer which did not completely remove the disease would be followed by recurrence. During life, the diagnosis of the extent of cancerous disease originating in any part of the uterus was at present impossible; hence, no operative procedure could afford a guarantee of complete removal. In view of the necessary doubt, no operation was justifiable which greatly endangered life, provided other and safer methods of treatment were available. Vaginal hysterectomy had sacrificed the lives of more than one third of those who had been subjected to it—the mortality of the operation when done by those of the greatest skill and experience being over 36 per cent. Other methods of treatment, attended by not more than from one sixth to one fourth the mortality of vaginal extirpation, were equally efficient in ameliorating the symptoms and retarding the progress of the disease; and they had been followed by as good or better ultimate results. Hence, they should be preferred. Vaginal hysterectomy did not avert or lessen suffering; it destroyed, and did not save life. It was, therefore, not a useful, but an injurious operation, and, being such, it was unjustifiable, and ought to be abandoned.

The Ring of Bandl was the title of a paper read on the third day by Dr. W. W. Jaggard, of Chicago. After a *résumé* of the literature of the subject, more particularly from 1876 to 1885, Dr. Jaggard said that it was impossible, in the present state of our knowledge, to dogmatically assert that the ring of Bandl and the anatomical internal os were identical, but that the weight of probable evidence at present at our command was very decidedly in favor of such a view.

Emmet's Operation; when shall it and when shall it not be performed? was the title of a paper read by Dr. Gustav Zinke, of Cincinnati. He said that in his opinion this operation was already a fixed and permanent resource, and that he had nothing to say against its propriety and utility. With him only one point—one upon which there was a great diversity of opinion—remained to be decided, and that was: When should we and when should we not perform this operation? For the purpose of obtaining the latest opinions of men well versed in gynæcology, he had addressed to quite a number of them in this country and abroad a circular letter containing the following questions:

Do you believe lacerations of the cervix uteri to be an important factor in uterine and pelvic disease? Do you believe fissures of the cervix uteri a cause of uterine and pelvic disease? State your theory in what manner a lacerated cervix will or may cause disease of the uterus, its surrounding tissues, and in parts remote. Do you believe laceration of the cervix a cause of sterility? Do you believe that Emmet's operation, if performed early and properly, will, to some extent or entirely, prevent uterine and pelvic disease? Do you believe that Emmet's operation is absolutely necessary in certain cases? If so, specify the class of cases. Do you believe that every lacerated (not fissured) cervix will cause, eventually, uterine and pelvic disease? If not, state approximately how many such cases you have observed? State approximately or exactly, if you can, how many times you have performed the operation? How often for the restoration of the cervix simply? How often for the relief of pathological changes and reflex disturbances depending thereon? What have been your immediate results respecting union and relief? What have been your remote results respecting union, relief, and sterility? When, in your opinion, is Emmet's operation contra-indicated?

He then divided lacerations of the cervix into fissures, lacerations of the first, second, third, and fourth degree, and illustrated the same by two drawings, the one representing an anterior, the other a lateral view of the uterus and upper part of the vagina. A fissure was an imperfectly healed laceration of the cervix, the rent of which could not be seen from the side, but only from below when looking at the os externum; fissures of the first degree extended through the whole of the lower third of the cervix; those of the second degree, through the lower two thirds; those of the third degree, through the whole of the vaginal portion or up to the cervico-vaginal junction; and those of the fourth degree were all those which extended beyond the cervico-vaginal junction and did not amount to a rupture of the uterus.

After considering in detail the replies received to each question, he gave, as a result of this inquiry, of consultation of the literature, and of his own practical experience, the following conclusions:

1. It was evident that the operation had been performed unnecessarily for symptoms similar to but other than those arising from lacerations of the cervix. Further, that it had been done imperfectly, even without preliminary treatment, in many more; and the failure to give relief, as reported by several, was due to these two causes.

2. From our present knowledge we could not, at this time, arrive at any definite conclusion, from the fact that many of the so-called consequences of lacerations of the cervix uteri were not settled beyond doubt.

3. Every one engaged in this department should carefully select his cases, and try every known means to give relief before recourse was had to an operation.

4. The operation should never be performed *eo ipso* in cases of simple fissures or lacerations of the first and second degree.

5. In cases of eversion and disease of the cervical or corporeal cavity, or both, although attended by hyperplasia and displacement, it had been observed that all the symptoms abated and the parts returned to their natural condition, and that no laceration was discoverable after alleviative measures were instituted, which alone caused the parts to return to a normal condition.

6. There were some cases of extensive laceration of the cervix that seldom gave rise to any inconvenience, and, therefore, an operation should be deferred until symptoms arose that called for its performance.

7. The operation, although indicated, should never be performed until, by preparatory treatment, the parts had been brought into a healthy condition.

8. Near and during the climacteric period the operation should be postponed as long as possible, and the patient not exposed to any risks, since in many cases all the symptoms subsided under proper treatment, and never returned on account of senile involution.

9. The operation was justifiable in cases of laceration of the third and fourth degree, without complications, if there was a history of malignant disease in the family.

10. The operation might be performed with perfect propriety in young women, as a preventive, if the laceration was bilateral and extended up to the cervico-vaginal junction, or beyond it, even though there were no pathological changes; indeed, it seemed to be the duty of every one who observed a lesion to that extent to urge the operation.

11. The operation was justifiable in any degree of laceration, and in rare instances even in fissures, when there existed cicatricial tissue, productive of reflex disturbances, annoying in character, and not tractable to any other treatment.

12. The operation was absolutely indicated in all extensive tears of the os in which the cervix was everted, its mucous membrane and Nabothian follicles diseased, and especially if there was granular or cystic degeneration present, provided the parts had first been restored to a healthy condition by palliative treatment.

Dr. HARVEY, of Indiana, said there was frequently much less pain in extensive than slight lacerations. When there was extensive eversion, the parts were skinned over, and were relatively non-sensitive. When a fissure existed in the cervix, it was productive of much the same reflex symptoms as a fissure of the anus. Moreover, while upon a cursory examination the laceration might be apparently slight, if the lips were everted it would be found that the laceration had taken on larger proportions higher up. For these cases of slight lacerations—fissures, so to speak—cauterization and deep incisions were not sufficient; they required Emmet's operation.

Dr. WATHEN, of Kentucky, said each case must be regarded as an individuality. The preparatory treatment was the best test as to the urgency of the indication for operation. Some cases did not require operation; such cases were cured by the preparatory treatment.

Dr. GORDON, of Maine, said that Emmet had repeatedly made the remark that epithelioma of the cervix was always associated with laceration of that organ. Although admitting laceration to be a potent factor in the production of epithelioma, Dr. Emmet did not advise closure in every case. Dr. Emmet was, therefore, clearly inconsistent. Dr. Gordon had operated two hundred and twenty-five times with one death. He indorsed Dr. Harvey's remarks. Dr. Gordon did not believe in long preparatory treatment. Chronic inflammation was a misnomer; inflammation, as pointed out by Peaslee, was a process rarely lasting more than seven or eight days; the chronic congestion, the product of inflammation, was confounded with the process. He had treated successfully patients refused admission at the New York Woman's Hospital because there was too much inflammation.

Dr. KING, of Missouri, thought there was greater danger of the development of cancer in cases of slight lacerations than in those of large ones.

Dr. CORSONS, of Detroit, thought that all lacerations should be operated upon. An ulcer on either lip of the buccal orifice was excised, if no tendency to spontaneous healing was evinced; the same line of reasoning ought to apply to lacerations of the cervix.

Dr. ULRICH, of Pennsylvania, indorsed the remarks of Dr. Harvey about slight lacerations.

Dr. HALE, of Illinois, did not think that all lacerations should be operated upon.

Dr. HEALY, of Maryland, desired to criticise a statement, made by Dr. Harvey, to the effect that an everted, lacerated cervix skinned over. It was never covered with mucous membrane, but merely by cicatricial tissue.

Dr. LEWIS, of New Orleans, had operated one hundred and fifty times in cases in which there was both local and constitutional evidence.

Dr. MARCY, of Boston, was glad to know that American practitioners were able to diagnosticate the condition under discussion, a feat which he was credibly informed the Germans could not do. He indorsed the remarks of Dr. Lewis. There were still two sides to the question. Dr. Baker, of Boston, had lost one case.

Dr. BATTEY, of Georgia, had never been impressed with the opposite character of the argument which would unite laceration of the cervix and epithelioma as cause and effect; with equal cogency, labor itself might be urged as an ætiological factor. He had seen extensive lacerations cured by local treatment.

The CHAIRMAN said that he had operated in cases of lacerated cervix merely to satisfy the patient. Epithelioma occurred in the cervices of virgins.

Reasons for and Results of Some Cases of Tait's Operation was the title of a paper by Dr. S. C. GORDON, of Portland, Me.

Dr. Gordon referred to Sir Spencer Wells's comment upon Kœberlé's paper, read before the International Medical Congress at Copenhagen last year. Wells said: "As to castration of women for nervous diseases, we might just as well go about the country cutting men for similar diseases as to do what is being done in removing ovaries of women." In reply to Dr. Gordon's question, he said: "I believe that in no case should the ovaries of a woman be removed unless we can demonstrate beyond all doubt that there is actual disease." In reply to the question, "Do you mean by demonstration only that which can be made by the touch?" he said: "Yes, most emphatically!" Dr. Gordon then related detailed histories of seven cases in which one or both ovaries or tubes had been removed. Improvement of all symptoms was observed in each case, and in some of them a radical cure was effected. He concluded that a close analysis of subjective symptoms through a long period of time was frequently adequate to establish the diagnosis of disease of ovaries and tubes and indicate the operation, when absolutely nothing of a positive character could be ascertained by physical exploration. Sir Spencer Wells's well-known aversion to Mr. Lawson Tait had probably influenced his judgment to an undue degree. Some of the important signs to which Dr. Gordon alluded were: Premenstrual pain, irregularity of the menstrual function, alternate pallor and flushing of face, an extraordinary mahogany-bronze color of the complexion, resembling that of Addison's disease. He observed no antiseptic precautions; he was clean, and used hot water.

Intra-peritoneal Adhesions considered in Relation to Battey's and Tait's Operations was the title of a paper by Dr. B. E. Hadra, of San Antonio, Texas. He concluded from the detailed consideration of four cases, taken as types, that intra-peritoneal adhesions might exist high up in the abdominal cavity, between various viscera, and that in all cases of abdominal section, after examination of the uterus and annexa, the hand should be made to search for such adhesions.

Dr. Battey thought that any aversion to Lawson Tait upon the part of Sir Spencer Wells would not influence his judgment. Both Sir Spencer Wells and Matthew Duncan had told him in London, only a few months ago, that the scope of Battey's and Tait's operations was limited; the former operator had seen but two cases, the latter but one case, in which the operation was indicated. It was necessary, in estimating the results of the operation, to allow a sufficient interval of time to elapse.

The immediate effect was always favorable. Almost any operation which drew blood would do the patient good. But then there came a reaction, and she felt that the improvement was imaginary. The ultimate effects of the operation were uniformly favorable. With reference to the introduction of the hand in search for adhesions, as suggested by Dr. Hadra, he had little doubt that some good was effected.

The Chairman called attention to the importance of always telling the patient that merely an exploratory incision was to be made, and then of being prepared for every emergency.

Dr. Harvey, of Indiana, called attention to the influence of Battey's and Tait's operations upon chronic hypertrophy or hyperplasia of the cervix, and indeed of the corpus uteri, causing rapid involution.

Dr. Wathen, of Kentucky, thought that the line of diagnosis advocated by Dr. Gordon was pernicious in its tendencies. Objective diagnosis was more reliable, although it must not be relied upon exclusively.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Meeting of April 9, 1885.

The President, Dr. E. O. Shakespeare, in the Chair.

Abscess of the Supra-renal Capsule.—Dr. Edward T. Bruen showed specimens from the body of Mary S., aged fifty-seven, who died in the Philadelphia Hospital. Two weeks before death she was admitted to the medical ward, and within a few days a circumscribed swelling in the left femoral region developed into an extensive abscess. Death occurred apparently from septicæmia. No satisfactory previous history could be obtained. Post-mortem examination disclosed the left kidney a third larger than normal, and its capsule quite adherent. Section showed a granulated surface, pale and mottled. The pelvis of the kidney was much dilated, being general evidences of parenchymatous nephritis. The supra-renal body was very much enlarged, and closely united with the kidney by firm, inflammatory adhesions. It was of the size and shape of a hen's egg. On section, it showed cystic degeneration, or softening of the medullary portion, the contents of the cyst being a thick, purulent, creamy liquid filled with cheesy particles. The cortical portion showed fibroid thickening, forming a dense connective-tissue wall from a quarter to half an inch in diameter. The right kidney was of normal size, but showed similar changes to those in the left one. The right supra-renal body was normal. The other abdominal organs were normal, and there was no peritonitis. The abdominal and other lymph glands throughout the body were normal, also the thoracic organs. On examination of the left femoral region, a large tumor was found. Upon section, pus exuded freely, and a large abscess was discovered between the extensors and adductors, lying beneath the sartorius. The abscess extended into the hip joint. The acetabulum and the periosteum of the head of the femur were eroded.

The comparative rarity of disease of the supra-renal body lent an interest to any lesions affecting it. Dr. Shakespeare had made some sections of the capsule of this tumor without finding any tubercular structure. There had been no bronzing of the skin, nor any other symptoms than those naturally to be expected in association with a large abscess, such as was found in this case. These facts, together with the unilateral character of the lesion, inclined the speaker to consider the specimen as one of abscess in the supra-renal body.

Dr. O'Hara asked whether this might not be a surviving abscess left after the absorption of other pus centers, as he thought sometimes occurred.

Dr. Nancrede combated this novel view, contending that, while fugitive visceral *congestions* sometimes occurred in pyæmia, which readily disappeared, as well as certain collections of white-blood cells in the thecæ of tendons and the bursæ contiguous to joints, yet he did not believe that septic emboli producing infarcts could be *absorbed* as maintained by Dr. O'Hara. Besides, if this explanation was correct, the clinical history should indicate something of the sort, which it did not, being one of *septicæmia*, not pyæmia.

Dr. Bruen said that there were one or two points of interest upon which he had not touched in the notes already read. The patient had led a dissipated life, having been brought into the hospital from one of the "slums" of the city. He had supposed that the woman had received some injury, such as a blow, which had given rise to the abscess in the groin, and she had died with symptoms of septicæmia. He had therefore regarded the abscess in the renal capsule as secondary. The localization of the pathological process in but one capsule, the absence of bronzing of the skin, vomiting, and vaso-motor disorder, separated the case from Addison's disease. Indeed, it might be said the *ensemble* of the latter disease was wanting. Cases of Addison's disease had been described as being associated with abscess, but the disease was always bilateral, and in association with a special train of symptoms, and with the absence of other pathological processes in the system. The most valuable compilation of cases of diseases of the supra-renal capsules up to the year 1866 could be found in Vol. XVII of the "Transactions of the Pathological Society of London," 196 cases having been collected by Dr. Greenhow.

Aneurysm of the Aorta with Rupture into the Trachea in Two Places, and Perforation of the Œsophagus.—Dr. Osler presented a specimen from the case of W. J., aged fifty-four years, colored, a teamster by occupation, and accustomed to do heavy work. He had been healthy and strong; there was no history of syphilis. In August, 1882, he began to suffer with pains in the chest and left shoulder, but he did not have any serious inconvenience until September, 1883, when he was attacked with cough and thoracic trouble, possibly pulmonary, which kept him in the house and in bed for several months. It was not until May of last year that he was able to work. Since July he had had at times attacks of shortness of breath with wheezing, and often at night had had to sit up in bed. Within the past three weeks the pains in the shoulder and down the left arm had become very severe, and the cough and shortness of breath had increased. On his admission the inspiration was rough and noisy, expiration loud and harsh, and often accompanied by a brazen, laryngeal cough. His respiration was 18 a minute. He could rest in the recumbent position. The left side of the neck was much flattened, especially above the clavicle, and the sterno-mastoid muscle on that side was evidently atrophied. The apex beat was visible in the normal position. There was no abnormal pulsation, but slight visible pulsation in the vessels of the neck. Palpation in the ordinary way was negative, but, on firm pressure with one palm on the upper bone of the sternum and the other on the back, a distinct impulse could be felt and the second sound was accentuated; deep pressure revealed pulsation above the sternum and behind the left sterno-clavicular joint. Percussion revealed a slight area of dullness over the left half of the manubrium sterni and beneath the left sterno-clavicular joint. The heart dullness was not increased, and the heart sounds were clear. At the sterno-clavicular joint, when the breath was held, there was a soft, double murmur, the diastolic the louder, and the second sound seemed markedly accentuated. These murmurs could be heard over the left carotid and in the supra-sternal notch. The tugging at the trachea was marked on elevating the larynx. The pupils were equal. The left radial pulse was smaller than the right, and slightly retarded. There was loud tracheal and bronchial stridor; no pressure signs on either bronchus. The patient expectorated much thin muco-serous fluid, which was blood-tinged, and at times there were more consistent sputa containing much blood. He was ordered to take 20 grs. of potassium iodide, t. d., and to rest quietly in bed; no restriction as to diet. Laryngoscopic examination showed that the left cord was immobile. Within three weeks he was greatly benefited as regards the pains, cough, and wheezing, and the blood had disappeared from the sputum. Throughout February he remained very well, having occasional attacks of spasmodic coughing at night, which were relieved by compound spirit of ether. His general health improved, and he was allowed to get about the ward. The sputum was occasionally tinged with blood.

On March 19th he was shown to the class, and the following changes were noted: Slight increase in the substernal dullness on firm percussion; more marked accentuation of the second sound over this region; persistence of the double murmur, which was now also to be heard just to the right of the sternum and at the aortic cartilage, and at this point it was the loudest. No increase in the pulsation, but in certain lights a slight impulse at the upper part of the sternum was visible. At the beginning of the month he began to be more wheezy, the stridor was very marked, and the dyspnœa became urgent, so that he had to sit up in bed. Sometimes these attacks would come on suddenly. On the 3d and 4th the dyspnœa was severe, and he got much weaker. On the 5th and 6th he spat up some bright blood, but not in any great amount, and gradually sank, dying at 9.30 P. M. The specimen removed by Dr. Hamaker showed an aneurysm of the aortic arch, which occupied a position between the first bone of the sternum and the spine, very firm, solid, and of about the size of an orange. The entire arch was dilated, but the sac of the aneurysm involved especially the upper posterior part and was lined with dense yellow, fibrinous laminæ. The orifices of the innominate and left carotid were free; that of the left subclavian was considerably narrowed by atheromatous ridges. The great veins were not compressed. The left recurrent laryngeal passed round the sac, was much stretched, and looked thinned; the right was normal. The trachea was much compressed about the middle of its course, and the aneurysm caused a marked bulging on the left side, where two perforations could be seen. The upper one, about 6 cm. from the bifurcation, was only 2 or 3 mm. in diameter, and the tissues about it were thickened, dark, and the mucosa somewhat fibroid. The lower orifice was smaller, and looked more recent. Neither of these led directly into the sac proper, but into a small pocket situated between the dense laminæ of fibrin and the thinned tracheal wall. On inspecting the œsophagus, an oval perforation was found 7 cm. from the cricoid cartilage, which communicated directly with the sac, but was partially blocked with fibrinous clots. The stomach was found distended with fresh clots, and there was much altered blood in the small intestine. Collapse and congestion of the bases were the only changes in the lungs. The heart was not hypertrophied; the valves were normal; the muscle substance was flabby and in a state of fatty degeneration and brown atrophy.

The points of interest in this case were the repeated bleedings, extending over several months, and the associated wasting of the muscles of the left side of the neck. At first the bleeding was looked upon as an indication that erosion of the trachea had occurred, but subsequently it was thought more probable that it came from the swollen mucosa at the site of the compression. No doubt the first supposition was the correct one, as the upper perforation had probably been the source of the bleeding, but the firm leathery clots effectually prevented any profuse hæmorrhage. The final bleeding into the œsophagus also took place very slowly, probably during the last thirty-one hours of life, as there was dark and much altered blood in the ileum. It was impossible to say upon what the atrophy of the neck muscles depended, as no careful dissection was made of the nerves in that region; possibly the sympathetic was affected, but there was no difference of the pupils.

In reply to a question, Dr. Osler said that the iodide of potassium was given chiefly with a view of relieving the pains, and it had the desired effect.

A Right Lung with Four Lobes.—Dr. W. A. Edwards read an elaborate description of a right lung with four lobes. The paper was accompanied by a careful drawing of the specimen, which had, unfortunately, been destroyed by the evaporation of the preserving fluid.

Dr. Osler asked whether there had been any dissection made of the bronchi and blood-vessels of the abnormal lobe.

Dr. Edwards replied that no very careful dissection had been made, as he wished to preserve so rare a specimen, but, so far as his examination had gone, he could see nothing abnormal.

Disease of the Knee Joint.—Dr. H. R. Wharton presented a specimen removed by amputation from a patient in the University Hospital under the care of Dr. Ashhurst, which showed a marked degeneration of the knee joint resulting from inflammation of that articulation.

The patient was a man aged forty years, who three years before had received a slight injury of the right knee, which caused him more or less trouble up to January, 1885. At this time, while at his work, he twisted the affected knee. This injury was followed by an attack of acute inflammation, which went on to suppuration and destruction of the cartilages. The patient, when admitted into the hospital, had a high temperature, profuse sweats, and a rapid and feeble pulse. His condition was so urgent that it was deemed advisable to remove the part by amputation rather than make use of the more conservative operation, excision of the knee joint.

Meeting of April 23, 1885.

The President, Dr. E. O. Shakespeare, in the Chair.

Notes on the Morbid Anatomy of Pneumonia.—Dr. W. Osler read a paper summarizing his experience while Pathologist at the Montreal General Hospital. Of 105 autopsies in cases of lobar pneumonia of which notes were available, 5 were discarded for various reasons. The mortality at the hospital was high on account of the large percentage of grave cases which were admitted, many being of persons who were debilitated and dissipated.

Of the 100 cases, 70 were males and 30 females. Of 94 instances in which the age was given, there were eleven cases under 20 years of age, twelve between 20 and 30, eighteen between 30 and 40, twenty-one between 40 and 50, twelve between 50 and 60, and twenty cases over 60 years of age. In 51 cases the right lung was affected, in 32 the left, and in 17 both were affected. Other details were given of the various lobes affected. The heaviest lung observed weighed 2·303 grammes, and in eight instances the affected organ weighed over 2·000 grammes. In about 50 per cent. of the cases there was red hepatization, in 30 per cent. mixed red and gray, and in about 20 per cent. gray hepatization was present. The condition of the pleuræ, air passages, bronchial glands, and unaffected portions of the lung tissue was described. Among the terminations, there were four instances of abscess formation, three cases of gangrene, and one in which there was a process of fibroid induration beginning in the lung. This case was that of a man aged fifty-five, who was admitted, with pneumonia of the right lung, five days after the initial chill. Resolution did not occur, and he died in the fifth week. On post mortem, the right lung was found solid, grayish in color, and in many areas the tissue had a smooth, homogeneous, translucent aspect, and in these a fibroid change was going on; the alveolar walls were thickened and the fibrinous plugs in the air cells seemed to be undergoing transformation into connective tissue. (A slide was shown illustrating this.) There were no caseous portions and no tubercles.

As to the other organs, the frequency with which large, firm clots were found in the heart was specially dwelt upon. In only thirty-five instances was the spleen much enlarged. In one, it weighed 670 grammes. In 25 per cent. there were marked fibroid changes in the kidneys. Of the complications, there were five cases of pericarditis and sixteen cases of endocarditis. In eight instances the meninges of the brain were inflamed, in five of them, associated with ulcerative endocarditis. In five instances there was acute croupous or membranous colitis, and in one instance croupous gastritis.

Dr. Tyson, in the discussion of Professor Osler's paper, said that he had been rather incredulous of the termination of croupous pneumonia in fibroid induration, but the specimen exhibited by Dr. Osler demonstrated conclusively that such a condition existed. The facts presented in the paper were such as were not generally collated.

Collective reports of autopsies in cases of particular forms of disease would be of great value in the study of pathology.

Dr. Formad asked Dr. Osler why his was not a case of acute phthisis. Croupous pneumonia was a very common accident in acute phthisis.

It was croupous pneumonia which caused death, which was well shown by recent investigations of Mercur, of the University of Pennsylvania.

Dr. Formad did not believe that croupous pneumonia could last five weeks.

Dr. Shakespeare said that the remarks of Dr. Osler about the frequent existence of very firm clots in the right heart, extending into the ventricles, could be corroborated by any one who made autopsies of cases of pneumonia at hospitals. He had seen them in cases of phthisis, quite as extensive and firm, reaching into the vessel going to the affected part of the lung. It was interesting to note the systemic involvement of these cases of croupous pneumonia, and the affection of internal organs as well as of the lungs, in the process which had been regarded as a local disease. We have to do with a general, wide-reaching affection rather than local inflammation. The opinion was advanced by Dr. Osler that the exudate in the air cells organized, that the process in the organization of the croupous exudate was similar to that in the clot in arteries after ligation, and that comparison was the point which he wanted to bring out. Dr. Shakespeare said that he did not believe that a blood-clot in a vessel ever organized, and his opinion was based on facts detailed in an investigation which he had published on the healing of arteries after ligature. The vessel healed, not by the agency of the white cells caught in the meshes of the reticulum, but by proliferation of the endothelium of the tunica intima and subjacent connective-tissue cells. He thought there was reason to believe that there was in this process in the lungs an analogue of the process in arteries after ligature.

We had to do with an outgrowth of the inter-alveolar walls. The ground which Dr. Shakespeare took was purely that of analogy to the process in a blood-clot in a ligatured artery.

Dr. Osler, in closing the discussion, said that it was well known that croupous pneumonia might persist five or six weeks, or even longer, before resolution took place. It was difficult for any one who had not had the experience to realize the anxiety which such a case would cause. He had reported two such cases of delayed resolution, one in the fourth week and one in the eighth, both with perfect recovery. He was quite aware of the difficulty in distinguishing certain cases of acute phthisis from pneumonia, and he had seen a case with Dr. Ross in which the diagnosis was for some time in doubt, but in the case in question the person had been under observation from the outset, and the symptoms were those of ordinary pneumonia. The post mortem revealed no caseous masses, no miliary tubercles, only the condition already described. The termination in fibroid induration, though rare, was perfectly well recognized. In "Cornil and Ranvier's Manual," as well as in "Green's Pathology," there was a figure which might have been taken from the slide under the microscope.

Primary Tuberculosis of the Kidneys.—Specimens from a case were presented by Dr. M. H. Fussell, of Manayunk.

The reporter never saw the subject alive from whom the specimens were removed, having performed the post-mortem examination for a friend.

The case was that of Edward B., aged forty, single, by trade a paper-maker. In following his calling he was forced to stand in a dust-loaded atmosphere from morning until night. He worked at this trade steadily from boyhood, with the exception of four years during the late war. His grandfather died of bladder trouble; his father died of apoplexy; his mother, brothers, and sisters are all living and healthy. He was always a robust man; his weight was one hundred and seventy pounds, and he never had any serious illness; he had gonorrhœa during the war. Four years ago, while in camp, he made a misstep and fell. The next morning he passed much blood in his urine; previous to this he was perfectly well. From this time until death he was troubled with slight pain in his loins and with frequent micturition; his urine was sometimes bloody, sometimes milky. The patient's bladder finally became incontinent, and he was forced to wear a urinal. His general strength did not seem to suffer until within the past six months, when he began to lose flesh and strength, and at death he was much emaciated. He had never had any cough or diarrhœa. Two weeks before death he began to vomit; this increased in frequency until he was unable to retain anything on his stomach. Just before death breathing was rapid and full. The patient was very restless, vomited, and passed urine freely. The pupils were dilated.

Dr. Fussell examined the urine several times. The specific gravity ranged from 1·002 to 1·010. Large amounts were passed. Albumin was present. The microscope showed pus, blood, and granular epithelium. Many of the cells were irregular in shape, the pyramidal form predominating. No casts were found at any time. Unfortunately, a critical physical examination of the patient was never made. At different times surgeons had sounded him for stone, and had failed to find any.

Post Mortem.—Nothing especial was noted on the exterior of the body. Thorax: Heart about normal in size. The muscle looked normal, and contained a large amount of fluid blood and currant-jelly clots. A small decolorized clot on the left side. Valves normal. Lungs: Both pleural cavities obliterated. The pleuritic adhesions were tough, the lungs being with difficulty torn from the cavity. In places the pleura was much thickened. The surface of both lungs was studded with miliary tubercles. On section, the lung substance was crepitant and studded with myriads of miliary tubercles. No caseous masses nor cavities were found in either lung. The bronchial glands were enlarged, not caseous. Abdomen: Viscera in normal position, peritonæum free from tubercles, and of a healthy look. Liver of normal size and color. Over the surface a few stellate cicatrices were noted, but no tubercles were seen on the surface nor on section of the organ. The bile-ducts were free. The stomach contained greenish-black fluid; the mucous membrane was of a greenish color, corresponding to the contained fluid. The rugæ were much enlarged, especially at the cardiac end. Near the pylorus there was a small injected spot. Kidneys: The right measured six inches in length and three in width, and was of a reddish hue; the surface was studded with tubercles; on stripping off the capsule, the layer of these remained with the kidney structure, while some of the smaller ones were torn off. On section, the cortical substance was seen to have a thickness of about one third of an inch. Numerous foci of softening were seen. These were of the size of a nickel five-cent piece. There were very many smaller ones, situated mostly in the pyramids. Numerous miliary tubercles were found throughout the substance of the kidney. The foci of softening were evidently due to breaking down of the tubercles. The ureter was dilated, measuring half an inch across in some portions. The mucous membrane was ulcerated. The pelvis of the kidney was not dilated, and showed miliary tubercles. The left kidney was large, and was converted into five or six cysts. There was but little kidney substance remaining. The surface of the kidney was studded with a few tubercles. The cysts were lined by a thick leathery membrane which could be stripped from the kidney substance. On puncturing the cysts, a perfectly clear, serous fluid at first escaped, soon followed by a milky substance containing some cheesy masses. The pelvis was smaller than normal, the ureter entirely occluded. The supra-renal capsule had undergone degeneration and was of a uniform yellowish-white color, and presented tubercles. The bladder was slightly contracted, the mucous membrane ulcerated, the muscular coat being exposed. The vesical trigone was of vivid red color and studded with miliary tubercles. The intestines were normal—no enlargement of lymphatic elements. The mesenteric glands were slightly enlarged. The prostate gland and spleen were not examined. Professor William Osler kindly made sections of the kidney and supra-renal capsule, and the reporter was indebted to him for the following report: 1. Extensive, wide-spread, small-celled infiltration between tubules and Malpighian tufts. 2. Distinct miliary tubercles with centrally placed giant-cells. 3. Areas of softening and disintegration. Tubercle bacilli carefully sought for, but only two undoubted specimens found. Supra-renal capsule showed miliary tubercle with centrally placed giant-cells.

Dr. Formad referred to a similar specimen which had been exhibited by Professor Tyson at a former meeting of the society.

Dr. Osler remarked that Dr. Fussell's case corresponded in all essentials to what we know as tubercular nephritis. The bacilli, however, were scarce and difficult to find. Since the report of Dr. Tyson's case, a few weeks ago, he had had occasion to look over the notes of several cases, and found that they formed a complete series from cases of unilateral disease to instances with tuberculosis of the entire urinary tract and general infection. The condition was not infrequently met with accidentally in persons dead of other affections.

Tubercle Bacilli in the Urine.—Dr. Osler showed a slide of pus from the urine in another case of tuberculous kidney, with the tubercle bacilli stained.

Intestinal Stricture.—The President reported a case of this affection. The patient was admitted to the Philadelphia Hospital one week previous to her death. She had obstinate constipation, followed by stercoraceous vomiting. She suffered acutely, lapsed into an unconscious state, and died, all treatment proving ineffectual.

At the autopsy the thoracic organs were found apparently normal. In the right iliac fossa a lobulated tumor was apparent on opening the abdominal cavity. The colon was distended with gas in the transverse portion, and in the descending portion was narrow. The ascending and transverse portions contained hardened fæces. There was a double twist of the intestine, and two strictures—one in the ileum two inches above the ileo-cæcal valve, and one two inches below the valve. They would not admit the finger. There was a ring of hardened tissue in each stricture. There was congestion of the mucous membrane in the small intestine, and adhesion of the first part of the ascending colon on its under surface to the abdominal parietes. The kidneys were normal. A large tumor of the right ovary was also present, attached to the uterus.

Dr. Formad, who made the autopsy, remarked that acute peritonitis had in this case become chronic, and that it was the contraction which made the strictures. The cause was probably the abdominal tumor. He was not aware that there was a case on record where a tumor produced stricture. The constriction was due to outside pressure.

Miscellany.

The Illinois State Board of Health and the Preliminary Examination at the Medical Colleges.—At a recent quarterly meeting of the board the secretary presented evidence going to show that the board's schedule of "minimum requirements" was being evaded by some of the colleges, in so far as concerned the preliminary examination of their students. The board therefore passed the following resolutions:

"*Whereas*, Many medical colleges do publicly announce that an entrance examination of candidates for admission to their lecture courses will be exacted, and do honestly and impartially enforce such examination; while, on the other hand, a number of schools either avoid making such announcement, or evade the practical enforcement of any requirement of general education preliminary to the study of medicine; and

"*Whereas*, These conflicting practices result in lowering the standard of medical education by attracting to a certain class of schools students who are poorly prepared for the study of medicine; Therefore be it

"*Resolved*, That, in order to secure the recognition of its diplomas as in good standing for the purposes of the Medical Practice Act in this

State, it is necessary that each college shall distinctly state in its annual announcement that the conditions of admission to its classes are: 1. Credible certificates of good moral character. 2. Diploma of graduation from a good literary and scientific college or high school, or a first-grade teacher's certificate, or, lacking this, a thorough examination in the branches of a good English education, including mathematics, English composition, and elementary physics or natural philosophy.

"*Resolved*, That the secretary of the board be, and hereby is, instructed to furnish a copy of the foregoing preamble and resolutions to the dean or secretary of every medical college, and to the editors of medical journals, in the United States."

The Health of the State of New York.—In its "Monthly Bulletin" for the month of March, the State Board of Health informs us that the total reported mortality for the month was 7,400, being an excess of 724 deaths over the number reported for the preceding month. The percentage of infant mortality was 34·27, being about the same as in February. The deaths from zymotic diseases amounted to 1,081, or 14·60 per cent. of the total mortality. The percentage of mortality from acute respiratory diseases was 22·76, and that from consumption 14·61.

The Physicians' Club, of Buffalo.—A correspondent writes to us as follows: "At a regular meeting of the Physicians' Club—one of the most vigorous, as it is the youngest, of our medical societies—March 27th, a paper was read by Dr. Irving M. Snow, on The Influence of High Altitudes on Pulmonary Consumption. After the reading and discussion of the paper Dr. Park exhibited various forms of the electric light intended for the illumination of the cavities of the body. The battery he uses is one of his own device, in which the fluid is raised to act upon the elements, and at the same time kept in a state of constant agitation, by forcing air into the chamber by means of an ordinary hand-ball. This method has some advantages for the cautery, as the degree of heat can be regulated to a considerable extent by the rapidity with which air is forced into the chamber. The use of the light in laryngoscopic, rhinoscopic, and otoscopic examinations was shown; also a form in which the light is thrown straight ahead, of great service in inspecting the mouth, vagina, or rectum. Professor Park stated that he had once used it to inspect the pleural cavity in a case of empyema in which he had resected a rib. The light was introduced through this opening, and afforded an excellent view of the cavity, with ropes and dripping stalactites of lymph and pus. He also explained the construction of the gastroscope, and exhibited a specimen of the comma bacillus."

The New York Polyclinic.—The regular session of the New York Polyclinic ends on Saturday, May 30th. The number of physicians who have attended the clinics since September 22, 1884, is over two hundred. The summer session opens Monday, June 1st, and will continue until September 12th. The following clinics will be held each week: gynæcology, twelve; diseases of children, six; surgery, eight; diseases of the skin, six; diseases of the chest, general medicine, and diagnosis, six; diseases of the eye, six; diseases of the throat, nose, and ear, six; total, fifty. In addition, obstetrical cases will be given to the class, and there will be a course in urinary analysis. The laboratory of pathological histology will be open all summer.

Rules for the Management of Infants.—The following rules for the general management of infants were drawn up by a committee appointed by the Obstetrical Society of London:

"*Washing.*—Cleanliness is of vital importance to the health of all infants, and they should have a warm bath at least once every day. The body should be gently cleansed from head to foot with a sponge or flannel, and then quickly dried with a soft warm towel. After three or four months the heat of the water should be gradually lowered, but it is not advisable to use quite cold water for young children.

"*Clothing.*—The clothing of infants should be light, soft, and warm, and arranged so as not to interfere with the free play of their limbs. All tight bandaging should be avoided. The common practice of keeping the arms, shoulders, and legs of infants and children bare is hurtful. Children bear cold less well than grown-up people, and should be warmly clad, with the exception of the head.

"*Ventilation.*—Pure fresh air is of extreme importance to children. The rooms in which they sleep should be as large and airy as possible, not overcrowded, and the windows should be opened freely and frequently.

"*Sleep.*—Unless the weather be very cold, or the infant be premature or feeble, it is desirable that it should, from an early period, sleep away from the mother or nurse, in a cradle or cot, care being taken that it is warmly covered. For the first few months a healthy infant will naturally spend the greater part of its time in sleep. Up to three years of age a mid-day sleep is beneficial. In sleeping, as in feeding, regularity is of the utmost importance, and the infant should be put to bed at stated times. Infants should be put directly into their cot or cradle, and not got into the habit of being nursed to sleep in the arms. All soothing medicines, cordials, spirits, or sleeping drops should be strictly avoided, as likely to do much harm. Nothing of this sort should be given except under medical advice.

"*Air and Exercise.*—In fine weather the child should be taken out at least twice a day, care being taken that it is sufficiently clothed in winter. In warm summer weather the more it is in the open air the better, taking care to protect the head from the sun.

"*Feeding.*—Nothing is more important in the bringing up of infants than the careful management of their feeding. Carelessness or errors in feeding cause a large proportion of their illnesses and deaths.

"*Suckling.*—Nature provides breast milk as the proper food for an infant, and suckling is by far the best way of feeding it. Provided the mother or wet-nurse has plenty of milk, and is in good health, an infant requires and should have no other food but the breast milk until after the seventh or eighth month. The milk itself, for the first few days, acts as a laxative, and no other aperient is necessary. Should the formation of the milk be delayed, a little cow's milk, diluted with an equal quantity of warm water and slightly sweetened, may be given until the mother is ready to nurse. The infant should, for the first six weeks, be put to the breast at regular intervals of two hours during the day. During the night it requires to be fed less often. As it gets older it does not require to be fed so frequently. An infant soon learns regular habits as to feeding. It is a great mistake, and bad both for the mother and child, to give the breast whenever it cries, or to let it be always sucking, particularly at night. This is a common cause of wind, colics, and indigestion.

"*How a Nursing Mother or Wet-Nurse should be Fed.*—A nursing woman ought to live generously and well, but not grossly. She may take porter or ale, in moderation, with her meals. It is a common mistake for wet-nurses to live too well, and this often causes indigestion in the child. Should a nursing woman suffer from dizziness, dimness of sight, much palpitation and shortness of breath, or frequent night-sweats, it is a sign that suckling disagrees with her, and that she should cease to nurse.

"*Mixed Feeding, when the Mother has not enough Milk.*—When the mother has not enough milk to nourish the child, other food may be given, especially during the night. This should consist of the best milk, and is recommended under '*hand-feeding.*' This plan of combining breast-feeding with bottle-feeding is better than bringing up the child by hand alone.

"*Weaning.*—The child should not be weaned suddenly, but by degrees, and it should not be allowed to have the breast after the ninth month. When the child is seven months old it may have one or two small meals a day of milk thickened with farinaceous food or nursery biscuits. When the child is about ten months old it may have one meal a day of broth or beef-tea, with crumbs of bread soaked in it, or it may have the yolk of an egg lightly boiled. When it is about a year and a half old it may have one meal a day of finely minced meat; but even then milk should form a large proportion of its diet.

"*The Food of Grown-up People bad for Children.*—Meat, potatoes, and food such as grown-up people eat, are often given to young infants. This kind of food, and all stimulants, are entirely unsuitable, and are common causes of diarrhœa and other troubles.

"*Hand-Feeding.*—If the infant must be brought up by hand, the chief rule to remember is, that the food should resemble, as closely as possible, the milk provided for it by nature. Milk, and milk only, should be used for this purpose. Asses' or goats' milk is best; but cows' milk will in general do sufficiently well. For the first month equal parts of pure fresh milk and hot water, the whole being slightly sweetened; for the second and third months, two parts of milk and one part of water; and after the third month pure milk should be used. It may be found necessary to alter the proportions of milk and water here indicated. A tablespoonful of lime-water may often, with great advantage, be added to each bottle of milk, instead of an equal quantity of warm water. The milk should be given from a feeding-bottle, which should be emptied and rinsed out after every meal, and the tube and cork, or teats, kept in water when not in use. Perfect cleanliness is most important, otherwise the milk may turn sour and disagree with the child. The child should be fed regularly, just as if it were suckled, and it is a bad habit to give it the bottle merely to keep it quiet. Milk alone should form the diet until the time arrives for giving other food, as recommended under the head of '*Weaning*.' Most of the mortality from hand-feeding arises from the use of arrow-root, corn-flour, and other unsuitable kinds of food, which consist of starch alone, contain no proper nourishment, and should not be used as substitutes for milk."

We would add to the foregoing that a nursing-bottle with a tube ought never to be used.

THERAPEUTICAL NOTES.

A Method of Treating Pruritus Ani.—A correspondent of the "British Medical Journal" suggests the following plan of treating this distressing affection: Wash the external parts well with warm water, and inject a small amount of water into the rectum. Then introduce a ball of cotton saturated with a lotion consisting of:

Carbolic acid	20 grains;
Laudanum	4 drachms;
Dilute hydrocyanic acid	2 "
Glycerin	4 "
Water, enough to make	4 ounces.

The pledget should be removed before defecation, and a fresh one introduced after the act.

Cod-liver Oil and Lime-Water in the Treatment of Scalds of the Throat.—Palmer ("Practitioner"), referring to the frequency with which young children are scalded by drinking from the spout of a tea-kettle, speaks highly of the therapeutical value of teaspoonful doses of lime-water and cod-liver oil (equal parts). In a severe case treated by him the patient received a teaspoonful of this novel "carron-oil" every hour. The pain was promptly relieved, the child was soon able to swallow, and within a few days recovery was assured. The writer does not give a very satisfactory explanation of the *modus operandi* of the remedy.

White of Egg in the Treatment of Diarrhœa.—Celli ("Allg. med. Ctrl.-Ztg."; "Practitioner") recommends this simple remedy in cases of chronic diarrhœa, especially in phthisical patients. He suggests that the whites of eight or ten eggs be beaten up in a pint of water, so as to form an emulsion. A few minims of laudanum and a little flavoring extract may be added. The entire amount should be taken in twenty-four hours.

A New Remedy for Tape-worm.—Dr. Howard Pinkney ("San Francisco Med.-Literary Jour."; "Therap. Gaz.") recommends the oil made from the pine-needle (*Pinus pumilio*) as an efficient tæniacide. The patient should take a teaspoonful of the oil at bedtime, after fasting all day, and the next morning two teaspoonfuls are administered, followed in an hour by a dose of castor-oil. The drug is said to have an agreeable odor and taste, and to cause no unpleasant symptoms.

The Application of Carbolized Resin to Ingrowing Toe-nails.—Dr. Genese ("Maryland Med. Jour."; "Therap. Gaz.") recommends this simple method of treatment, which he has adopted with success in several cases. Pure carbolic acid and French pine resin are the components of the mixture, of which a single drop is applied to the painful spot. The writer states that after two or three applications the toe-nail may be raised without pain.

Continuous Inhalations of Chloroform in the Treatment of Chorea.—Bostock ("Liverpool Med. Press"; "Therap. Gaz.") has recently reported a case of recovery from chorea for which every remedy had been tried in vain. Chloroform was administered continuously for eight days, the patient being allowed to recover at intervals only sufficiently to take nourishment. Most readers will regard this method of treatment as being as dangerous as it is novel.

Ether Spray in the Treatment of Tetanus.—Bonteillier ("Prog. méd.") reports a case of traumatic tetanus which was cured by spraying the vertebral region with ether at intervals of two hours. The writer also refers to an obstinate case of chorea which was cured within a month by an application of the spray night and morning, each *séance* lasting from three to five minutes.

A Mustard Sponge.—Under this term Richardson, editor of the "Asclepiad," describes an ingenious substitute for a mustard poultice. He directs that the mustard paste shall be prepared in the usual manner; then a clean sponge is to be dipped into it. The sponge is folded up in a handkerchief, and the whole is applied to the part selected. By simply warming the sponge again and moistening it anew the poultice may be renewed, its strength being perfectly preserved.

Rhigolene as a Solvent.—The same writer calls attention to the fact that camphor and spermaceti dissolve readily in rhigolene, forming a solution which is an excellent application to burns. A drachm of each solid to two fluidounces of rhigolene is the proportion recommended. Five grains of iodine, dissolved in an ounce of rhigolene, form a useful application to the throat; the solution can be used in the form of spray as an inhalation, or it may be painted over the inflamed membrane.

Subnitrate of Bismuth in the Treatment of Fœtid Perspiration of the Feet.—Vieusse ("Gaz. hebd. de méd. et de chir.") has made some careful observations concerning this distressing infirmity. He alleges that the condition can be entirely and permanently cured by rubbing into the feet finely powdered subnitrate of bismuth. The action of the drug seems to be purely local; it toughens the skin and at the same time probably modifies the character and amount of the perspiration by affecting the glands. It is possible, the writer adds, that bismuth has some influence upon the capillary circulation of the parts. There are some cases in which the excessive sweating continues in spite of the treatment, but even then bismuth deprives the perspiration of its fœtid odor and relieves the tenderness.

The Simultaneous Administration of Kairine and Antipyrine.—Mingazzini ("Gazz. degli ospitale") recommends that these allied drugs be given together, since their combined action is more rapid than the separate action of either, and at the same time the unpleasant symptoms which sometimes follow the use of either alone are avoided. The writer's statements are founded upon a considerable number of observations. The amount of each drug given should be half the usual dose.

A Mixture for Bronchitis.—Trastour ("Union méd.") suggests the following:

Phenic acid	1 drachm;
Syrup of peppermint	3 ounces;
Distilled water	12 ounces.

Mix. A dessertspoonful three times a day, before meals.

A Pill for Anæmia.—Vigier (*Ibid.*) gives the following combination:

Pyrophosphate of iron	5 drachms;
Powdered gum, } Licorice-root, } each	30 grains;
Syrup of acacia	q. s.

Divide into 100 pills. From two to four are to be given daily, just before eating.

Atropine in Epilepsy.—David ("Lyon méd.") administers to epileptic patients twenty grains of bromide of ammonium, and at the same time gives fifteen one thousandths of a grain of sulphate of atropine night and morning. After this treatment has been continued for six months, he directs that two of the following pills be taken daily for at least a year:

Valerianate of zinc	$\frac{2}{3}$ grain;
Extract of belladonna	$\frac{1}{10}$ "
Arsenious acid	$\frac{1}{30}$ "
Extract of gentian	q. s.

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Original Communications.

A CASE OF TRAUMATIC ANEURYSM OF THE SUBSCAPULAR ARTERY.

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DETROIT.

It has seemed to me, after a careful study of such medical literature as I have at my command, that the technical procedures proper to pursue in operating upon traumatic aneurysms have not yet been sufficiently elaborated. One reason for this may be sought in the comparative rarity of the disease, even experienced surgeons having but few cases to report in a lifetime of practice. In discussing this subject, I am fully agreed with the author of the article on this subject in Holmes's "System of Surgery" in the distinction which he draws between ruptured artery and traumatic aneurysm—the latter phrase meaning that condition in which an injury of an artery is followed by the formation of a sac communicating with the artery and confining the current of blood. A ruptured artery may result in a traumatic aneurysm, but, until the sac has formed, it presents widely different phenomena, and requires widely different treatment.

The difficulties actually experienced in treating a large aneurysm of the subscapular artery, consequent upon a wound received three years previous, must be my excuse for suggesting and partially adopting a method of procedure at variance with any of those usually recommended by surgeons experienced in this class of disorders.

Frank Bulda, a Pole, twenty-seven years of age, by trade a carpenter, was stabbed, in December, 1881, in three places with a long-bladed pocket-knife. Two of the wounds were trivial and need not be described in detail. The third entered the back part of the left shoulder about half an inch below the outer end of the spine of the scapula, and was followed by an enormous extravasation of blood, which, according to the account of the patient, extended from the acromion to the elbow. This was absorbed in the course of time, and for two years he had no pain, suffered no inconvenience, and discovered no evidence of trouble in the neighborhood of the wound or elsewhere. After the lapse of that time, he one day noticed a small lump in the axilla, to which, however, he paid but little attention. In September, 1884, it began to enlarge, and at the beginning of December not only grew rapidly in size, but became also red and inflamed. On December 3d he entered St. Mary's Hospital in Detroit. On examining him, I found a pulsating tumor which filled up the whole axilla, and, on auscultation, yielded a distinct murmur. It seemed, however, to hug the inner rather than the outer wall of the axilla, and extended on the ribs fully an inch below the lower border of the great pectoral. Behind, on the posterior aspect of the shoulder, a little below the scapular spine, was a scar. The radial pulse did not differ perceptibly from that of the other side. Dr. F. B. Smith, then a student of medicine, obtained some tracings with Pond's sphygmograph, but my experience with that instrument has been such as to render me exceedingly distrustful of it, except in the most practiced hands; for I had found, in my own personal use of the instrument, that very slight variations in pressure would produce very great variations in the tracings, and, on inquiry among my professional acquaintances who had purchased it, the fact was revealed that no one of them had been able to become proficient in its use. I did not venture, therefore, to use the tracings for purposes of diagnosis. One marked symptom which puzzled me was the total absence of pain until the occurrence of inflammation in the sac. This seemed to be incompatible with axillary aneurysm, in which the anatomical relations would be such as to almost necessarily subject certain nervous trunks to irritation and pressure; but, after careful consideration, I nevertheless diagnosticated the disease as aneurysm of the axillary artery. On considering methods of treatment, I thought first of the possibility of curing the disease by pressure on the subclavian. The deep position of the artery, however, behind the elevated clavicle made this a very difficult achievement, for its pulsation was indeed barely perceptible. There was, however, a still more positive objection to the adoption of this course, in the dangers which delay brought to the patient on account of the extremely rapid enlargement of the sac. In the three days during which I had him under observation previous to the operation the tumor had doubled its size, the tissues around it had become œdematous, and the skin had assumed a dusky-red hue. A small black spot, which made its appearance on the day of the operation, announced in unmistakable terms the impending danger of suppuration and sloughing.

Ligation of the subclavian artery, a most dangerous operation in itself, was contra-indicated by the approaching suppuration of the sac, which would, of course, lead to a secondary hæmorrhage that would be probably uncontrollable.

The patient would not listen to any suggestions of amputation at the shoulder, even though reserved as a last resort. There was, therefore, nothing left but an operation at the seat of injury, and it remained only to determine whether I should conduct it after Syme's method or seek to modify that method by some changes which would make it less dangerous and difficult. The careful study of the histories of operations on aneurysmal sacs had made me aware of some of their difficulties, and yet I will confess that my own previous success in operations on ruptured arteries, as well as Syme's descriptions of his own cases, had made me underrate both the dangers and difficulties of securing a bleeding vessel within an aneurysmal sac. I determined, however, to vary the usual procedure, and, if possible, to get at the artery outside of the sac, instead of laying the sac open and operating from within; but to do this it would be necessary to treat the tumor as if it were a cyst, and dissect it up from the adjacent and adherent tissues. The chief obstacle anticipated in so doing was the probable fragility of the sac and its consequent rupture during the operation; but I made up my mind, should this occur, to lay the sac open and proceed then after Syme's method. The constitutional condition of my patient was bad. He was one of those poverty-stricken Poles who live habitually on a meager diet of poor food. His heart beat irregularly, and a blowing murmur, which, as the autopsy showed, did not depend upon cardiac lesion, indicated the abnormal state of his blood. The urgent nature of his symptoms forbade the delay which would have been necessary to enable him to regain his strength, and on December 7, 1884, I proceeded to operate.

I first made an incision above the clavicle, through which my assistant, Dr. John Boice, might control the subclavian. This was no easy matter, even when the artery was exposed, as the clavicle was elevated by the tumor and the artery had to be compressed at the bottom of a deep wound. Dr. Boice succeeded admirably, however, and the patient lost, considering all the circumstances, but little blood during the operation. This having been accomplished, I next, by means of a large crucial incision, dissected the integument from over the tumor. I then divided the costal portion of the great pectoral muscle, and by this means laid the anterior aspect of the tumor bare. I now proceeded to isolate the tumor from the adjacent structures by passing the finger over it and breaking its connections. I was enabled thus to pass the finger all around its inner and anterior surface, dissecting it easily away from the lesser pectoral muscle, and finally reaching the clavicle and upper limit of the sac.

I now began to detach the sac from the ribs, and had succeeded over about half the surface, when it ruptured under my fingers. It had then been detached on the upper, anterior, and part of its inner surfaces, and was still adherent to the outer surface, where it arose from the artery, and to the posterior and part of its inner or costal surface. The abandonment now of all further efforts to isolate the sac, and the incision of the sac after Syme's method, although part of my original plan, were the fatal errors of the operation.

This change of procedure was unnecessary, because the sac, though ruptured, did not bleed, as Dr. Boice had the subclavian perfectly under control. I acted, however, in the belief that it would not be very difficult to get at the artery through the base of the sac. I therefore turned out a great mass of laminated fibrin, fresh coagula, and fluid blood, and discovered the orifice through which the artery communicated with the sac at the extreme end of the cavity. It was easy to put the finger over the hole and prevent all hæmorrhage, but I soon discovered that the ligation of the artery through the wall of the sac was not only difficult but impossible. The wall of the sac was a thick, tough membrane, which had at its outer and lower part, where it ruptured, become softened by inflammation, but at its base was exceedingly dense and resistant. All efforts to scratch through it with a director failed, and I soon became convinced that no violence which could be safely used after that fashion would be of any avail. It was evident, too, that the passage of a sharp instrument through the membrane would endanger not only the artery but the adjacent vessels and nerves. I was still further perplexed by the anatomical obscurity which involved the parts, for, working at the summit of a deep funnel with my own finger placed over the aperture, obstructing my vision, it was by no means easy to determine the exact position of the axillary artery. It was altogether impossible to detect any pulsation whatever at the bottom of the cavity, even though the artery poured forth a great stream of blood whenever Dr. Boice and myself relaxed our pressure simultaneously. In the mean time, although no great amount of blood had been lost, the patient had begun rapidly to fail. His legs were elevated, his head lowered, and ether and alcohol injected into his arms. Failing to accomplish my purpose by Syme's method, I reverted to my first method, dissected up the sac from the ribs and posterior wall of the axilla, and threw a ligature rapidly around its base. I felt provoked, when I saw the ease with which this was accomplished, that I had wasted so much valuable time in a false direction. The tough sac bore the application of the ligature as well as an artery, and now I was enabled to complete the operation without any further regard to hæmorrhage. Dr. Boice removed his finger from the subclavian, the arm was extended and elevated to the utmost, and the sac examined. I soon found that the orifice of the sac was more than a quarter of an inch from the axillary artery, with which it communicated by a passage nearly as large as the axillary itself. I tied the axillary on both sides of this communicating passage, dressed the wound hastily, put the patient to bed, and applied the usual restoratives.

He did not lose in all, including the contents of the tumor, much over a pint of blood, a quantity which ought, in a healthy man, to have caused no very severe symptoms. He nevertheless nearly died upon the table, and, notwithstanding the application of all remedies, except transfusion, the neglect of which I now regret, continued in a state of collapse until he died, thirty hours after the completion of the operation. He retained all stimulus and nutriment which were administered after the operation, and suffered no distress at the stomach until about three hours before his death, when he complained of a feeling of weight and distension at the epigastrium. At the autopsy it was found that the stomach was distended with the fluids which had been given him, and it is not probable that much, if any, of the stimulus and nutriment which he had taken had been absorbed. Before his death his left hand had become warm, but on the outer aspect of the forearm, in its upper and middle thirds, were extensive dark-colored blisters. On post-mortem examination, I at first supposed that the passage leading from the axillary into the sac was a portion of the sac itself. A subsequent more careful examination convinced me that it was the remains of the subscapular artery, which had been cut about a quarter of an inch from its origin.

A careful study of Syme's very meager, obscure, and unsatisfactory reports of his cases of aneurysm has satisfied me that he had to deal in his cases not with aneurysmal sacs, but with ruptured arteries. This is the view of the matter taken by Moore, in his able article on aneurysm, in Holmes's "System of Surgery." I know, from a considerable experience with rupured arteries, that their ligation at the point of injury is a comparatively simple and easy procedure. This one experience is sufficient to convince me that the effort to cure an aneurysm by laying the sac open and attacking the artery from within will involve the surgeon in a labyrinth of perplexing dangers. Even though hæmorrhage may be prevented by well-directed measures, he will find himself working at immense disadvantage at the apex of a funnel whose walls are adherent to the surrounding parts, and lined with more or less of laminated fibrin. From within this cavity the exact anatomical relations can be ascertained only with great difficulty, and the thickness and toughness of the aneurysmal wall must, in many cases, make it impossible to feel the arterial pulsation, which might otherwise serve as a guide. When in such cases the surgeon can not lay bare the artery from within the sac by means of a blunt instrument, he must either dissect the tissues apart with a knife, in imminent danger of wounding the adherent artery or vein, or resort to amputation to save his patient from death on the table. While the dangers of Syme's operation may, it is true, be avoided in many cases by other methods of treatment, there are, nevertheless, cases where operations on the arteries at the seats of disease are imperatively demanded. When, for instance, suppuration of the aneurysm becomes imminent, the surgeon has no other choice, if the patient, like my own, absolutely refuses to consent to amputation. But, even where the surgeon has a choice of procedures, the results in all must be so doubtful as to make it exceedingly desirable that the whole subject should undergo a thorough revision. In aneurysm of the axillary, or its large branches near their origin, compression can be applied only at great disadvantage, and rarely with appreciable effects, on account of the elevation of the clavicle and the extreme difficulty of reaching the subclavian. Ligation of the subclavian under the same circumstances is very difficult and very dangerous, while Syme's operation, though proper for ruptured arteries, can not be practicable in such cases of aneurysm as have thick, resistant, and adherent sacs.

Under such circumstances, I venture to urge upon the profession the propriety of considering an entirely different method of procedure—that, namely, which I partially carried out in this operation, and to which I was obliged to revert, after having abandoned it for Syme's method, in order to get my patient from the table alive.

This method, if carried out in an axillary aneurysm to its completion, would be as follows: Having first made an incision above the clavicle, through which a trustworthy assistant could hold the subclavian under complete control, the surgeon should make a free incision over the tumor and lay the sac bare. If at any one spot the skin had become so adherent as to make its dissection from the sac dangerous on account of the liability of rupture, that portion of integument included in an elliptical incision could be left in position, just as we leave adherent skin on a cancerous tumor which we are seeking to extirpate. A sufficient portion of the great pectoral muscle should be divided to permit of free access to the tumor from in front as well as below. The surgeon should then pass his finger around the tumor, breaking up all the looser cellular connections. This was done in my case with ease on the anterior and upper aspects of the sac. When the less adherent portions of the tumor have become thus isolated, the more firmly fixed portions will have to be carefully detached, and it would seem best to begin this work from below and proceed with it upward. For this purpose the finger-nail or handle of a scalpel would be most appropriate. The sac could, if tolerably thick and not too much softened by inflammation, be lifted without much difficulty from the ribs and posterior axillary walls. Only on the outer walls, where the sac joins the artery, would the adhesions probably be such as to make their separation a matter of great difficulty. When the operation had proceeded thus far, the surgeon would have a choice of procedures. If the sac was thick and resistant, he could throw a ligature around its neck and cut away its main portion. This would remove the obstacle which the tumor itself would present to the free survey of the field of operation, and would, besides, relieve the assistant from further compression of the subclavian. This was precisely what I did in my operation, and I was enabled, by tying the neck of the sac, to bring the operation to a quick conclusion. On the other hand, if the aneurysmal sac should seem too thin to bear a ligature, or if its ligation should seem unnecessary, then the operator should carefully finish his work by separating the sac from the nerves, veins, and arteries on the arm. This would undoubtedly be the most difficult part of the whole operation, but, when completed, would leave the artery exposed for ligatures on both sides of the sac.

It is very evident that a surgeon who succeeded in this method would subject his patient to very little loss of blood, for hæmorrhage could take place only from the superficial vessels outside of the sac and from the sac itself, when it was removed at the completion of the operation. On the other hand, the only objection which could be urged against the procedure would be its possible tediousness, at least if its application was confined to those cases in which operations at the point of disease would seem necessary. Rupture of the sac would not indicate the discontinuance of the operation. If the subclavian is well controlled, the rupture causes no hæmorrhage, and the dissection, if continued beyond the seat of rupture, would soon bring the surgeon to the older and stronger parts of the sac. Should the sac be so thin as not to bear a dissection from the tissues to which it was adherent without repeated ruptures, the case would then be very evidently one suitable for Syme's method, and the operator could boldly cut away the denuded portion and seek to apply the ligature to the artery through the thin and fragile sac-wall at both sides of the bleeding point. It is to be remarked that this method of operation would by no means exclude Syme's operation should the circumstances of the case, after the operation was begun, seem to demand it.

As regards subsequent healing, I think that the clean wound left after the removal of the sac would offer as good a prognosis, to say the least, as the low-grade tissue of which an aneurysmal sac is composed.

In conclusion, I will offer the following propositions:

1. The dangers and difficulties incurred in operating upon traumatic aneurysms by the so-called Syme's method are due principally to the obstruction made by the sac itself, which obscures the anatomical relations, hinders manipulations, and often offers an impassable barrier to the surgeon who seeks to tie the artery through its walls.

2. These obstacles may be overcome by the systematic dissection of the sac from the surrounding structures, and the ligation of the artery from without instead of from within the sac.

3. This same method of treatment may be made available with idiopathic aneurysms whenever from any cause it may be necessary to operate upon them at the seat of disease.

IMMUNITY IN DISEASE.*

By R. G. ECCLES, M. D., Ph. D.,
BROOKLYN.

Dr. D. E. Salmon, in his last published report to the Commissioner of Agriculture, says: "The one point connected with contagious diseases which is mysterious beyond all others, and the elucidation of which promises the most important practical results, is the nature of the immunity conferred by vaccination, and the essential manner in which this insusceptibility is produced." Already a large number of theories have been advanced, but so far not one of them has met with general acceptance by scientific workers in this field. Pasteur and Tyndall, Klebs, Klein and Chauveau, Toussaint and Bollinger, have committed themselves in some degree to one or other of them. Dr. Salmon has formulated one of his own for America. They may be all wrong. Certainly they are not all right. As working hypotheses, the crudest may be of value. Even outside the laboratory they engender thought and stir up controversy that is wholesome in many ways. Theories are the sharp-edged tools of discoverers by which they cut their way into nature's secrets. The old proverb about children and half-witted people's handling such things is as applicable here as elsewhere.

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* Read before the Brooklyn Pathological Society, January 22, 1885.

When a cultivation flask charged with sterilized bouillon, or other material fit for the development of microbes, is inoculated with virus, fermentation soon sets in and continues usually until such material as is fit for their use is consumed, when they perish. It is now impossible by any reinoculation to again establish this special fermentation. The substitution of a new variety starts life and vigor in the flask again. In this way a series of different kinds of these microscopic vegetables can follow each other without a change of the charge. No one kind can repeat its growth. The resemblance subsisting between the methods of these ferments in the flask and the course some of them pursue in the bodies of animals was so striking that it gave rise to the first theory of immunity. Pasteur, seeing that the absence of some principle necessary to the life of the ferment must have contributed to its death in the cultivation flask, and that the continuance of its absence rendered that flask unfit for any future production of the same, naturally inferred that this was the secret of protection in the living body. If an animal's body can be exhausted of some chemical necessary to the life of *Bacillus anthracis* by a single attack, that animal can never again have anthrax. Tyndall has championed this theory of Pasteur.

If any plant or animal is confined within narrow, close limits, well charged with food but compelled to reside in its own excretions, the carbonic acid, the fæcal discharges, the products of its own combustion, whatever they may be, will accumulate so rapidly that they will kill it before the pabulum is exhausted. *Pari passu* with the consumption of saccharine matter by torula is a steady production of alcohol. Before the last trace of sugar has disappeared this has killed the plant. Two doors of death, therefore, lie before every microbe cultivated in a flask. If it starves to death for lack of food, it is but saved from the worse fate of being poisoned by its own excreta. The rival theory of Chauveau, Klebs, and Klein took its rise from a study of this fact. They believe that the cause of immunity is some chemical product added to the body by the microscopic organisms.

Pasteur has the honor of first providing the fact which cast discredit upon his own hypothesis. He showed that after any microbe had exhausted its fermentable matter a fresh supply of food would give it new vigor or enable a new generation to arise. In the body of an animal, food is being constantly replenished. The conditions of the body are, therefore, those of a flask subject to indefinite resupply. This being so, no immunity could occur from such a cause as Pasteur's theory implies. Chauveau, in his experiments with anthrax, added another nail to its coffin, and at the same time injured his own guess. He proved that a very large subcutaneous injection of the bacilli into any protected animal would give it the disease a second time. Smaller doses, such as would have given the disease to the non-protected, had no effect upon it. This fact has met with full confirmation in this and other diseases by hundreds of experiments. Dr. Salmon, Dr. Law, and Dr. Detmar have demonstrated its truth in this country in hog and chicken cholera. The exact degree of immunity possessed by any animal can be gauged by using a virus of standard strength. If immunity is due to abstraction, how can many microbes subsist and flourish where a few will starve to death? If due to the addition of something fatal to a few, it would seem as if that would also be fatal to the many. If the many triumph over it by superior numbers, there still remains the question, How can such a substance foreign to the cells avoid excretion in a lifetime? It is either soluble or insoluble. If insoluble, it is inert and useless for such a purpose. If soluble, it must be subject to the laws of osmosis, and be all in time excreted. That it is soluble there are many facts to show. Chauveau has proved that if a dam has anthrax near the end of pregnancy the fœtus is acted upon by the disease and receives immunity. Davaine and others have demonstrated that, however full of the bacilli of anthrax the blood of the parent may be, there are none whatever in the fœtus. The products of the bacilli and not the organisms themselves must here at least give immunity. These products, whatever they are, must be soluble or they could not reach the fœtus. There are many more facts confirmatory of this. As a crucial test of both theories, Dr. Salmon took protected animals as well as non-protected, made decoctions of their tissues in sterilized distilled water, and impregnated the same with highly attenuated virus. Each kind of decoction showed an equal capacity for the production of microbes. That made from the protected animal's body grew the microbes from which it had been protected just as well as that from the tissues of a non-protected animal, and the virus, when tested upon the living, was equally virulent. Had there been something abstracted from the body of the protected animal without which the microbes could not live, that something would have been absent from the decoction. When its body was dead it certainly could not produce it. Had the immunity been due to an added chemical, it should have appeared in the decoction, rendering it sterile so far as that variety of organism was concerned.

Toussaint, perceiving the shortcomings of both, suggested that the lymphatic glands might by inflammation receive some structural change that would render them impervious to the microbes. Some such filtering power they occasionally have been found to possess. If life immunity could be conferred by such a process during the advent of a contagious disease, the animal, instead of being protected from one, would be shielded from all. It is needless to say that the animal kingdom is not quite so fortunate as this.

Baffled on every side by merely physical explanations, attention has lately been turned upon the part which the cells themselves may take in the matter. The crudest suggestion is that the vital force—whatever that may be—acquires a power of resistance to the ingress of pathogenic microbes. However satisfactory this may prove to ignorant people, it is worse than useless to the man who seeks a clear reason for things. It merely relegates to the domain of mystery a territory we have vainly hoped to conquer. What is probably meant is that some modification of function occurs in the cells, and that this modification in some way produces these results. The American theory of Dr. Salmon, though less extensively known than some of the others, has the merit of co-ordinating more facts than any before advanced. It aims at pointing out the truth which the vital theorists have an adumbration of. It assumes that the blood of an animal at no time contains much more available oxygen than is needed by the cells, and that these pathogenic microbes can not live unless they have *even more* than the cells require. To procure an adequate supply on entering the body of their host is only possible by their intoxicating the cells, arresting them in their functions, and thereby allowing the oxygen to accumulate sufficiently for their subsistence. This they can do upon a first attack, but after a time the cells become habituated to the poison they excrete. The tolerance to this poison remaining through life, its entrance in small quantity into the circulation can never again inhibit the activity of the cells, nor check their consumption of oxygen.

Pasteur describes microbes as being aërobic or air-living, and anaërobic or not air-living. The extremes here given merge into each other through those that are amphibious. According to Salmon's theory, immunity can only be secured against aërobic or amphibious pathogenic microbes; malarial disease, tuberculosis, and the like being due to the presence of anaërobic ones in the patient. Aërobic and amphibious ones gain access by inhibiting cellular function through toxic bodies produced by or accompanying them. In this way they are supposed to gain a sufficient supply of oxygen. Animal bioplasm being anaërobic, it can exist in a more limited supply of easily procured oxygen than the majority of its pestilent foes.

That bacteria, bacilli, micrococci, etc., do produce toxic principles has been fully demonstrated. Sepsis and septicæmia are now clearly differentiated. The work of such men as Colin, Richardson, and Davaine has cleared this field of its obscurity. The toxic principles of putrid blood have been isolated, made to form chemical salts with acids, and been pretty thoroughly studied. The trillionth of a drop of a septicæmic cultivation of the twenty-fifth generation has been used by Davaine to kill rabbits. So small a quantity proving successful would seem to indicate that these microbes are ultra-microscopic. Very much larger quantities of blood from a case of putrid toxicæmia will do no harm whatever. In sepsis there is no period of incubation like that of septicæmia. Pasteur isolated the active poison of fowl-cholera by filtering it through plaster. After carefully evaporating to dryness and redissolving a quantity representing four ounces of his cultivation fluid, he injected it into a fowl subcutaneously. In ten minutes it had all the symptoms of a severe case of the disease. In about four hours every symptom had disappeared, and the bird was well. That microbes can gain no foothold in an animal's body unaccompanied by their poisonous products would appear from the following considerations. Chauveau, Hiller, and others have injected them, after thorough washing, into dogs, rabbits, and frogs. The most fatal kinds have proved perfectly harmless, although still able to multiply and become dangerous again. Septic bacteria, so cleansed, have been plastered on wounds at all stages without the least evil consequences that could be attributed to them. Those from the same cultivation, unwashed, have proved most virulent. Zuelzer and Riemschneider have, on the other hand, taken harmless bacteria and caused them to multiply in the bodies of animals by merely injecting with them enough sulphate of atropine to produce toxic effects upon the tissues.

That the bodies of animals are seriously affected at first by doses of toxical agents, which habit gives them afterward a tolerance for, is a matter of daily experience. That different animals and different persons have varying degrees of such tolerance is also well known. The drunkard, the morphine user, and the arsenic consumer become able to endure such doses of their respective poisons as would kill several normal men. It is said that rabbits will grow fat on belladonna leaves. Immunity in disease is relative, and resembles, in all we yet know, this limited immunity from the dangerous effects of ordinary poisons. Pasteur has shown that there are often points on the bodies of insusceptible animals where local lesions may be established, even if constitutional effects can not. This seems to indicate that the cells of these parts have not become thoroughly inured to the poison. Salmon's method of inoculation with attenuated virus points to the products of fermentation rather than the microbes as the source of disease and the thing protected from. The oldest method of procuring virus was by modifying its virulence through cultivation in some other animal than that we mean to protect. This is our method in small-pox. Professor Greenfield modifies by cultivating in aqueous humor. Davaine reaches the same results by heating to 55° C. Pasteur reduces the power of his by cultivating, in contact with pure air, for about eight months. Salmon takes strong virus and dilutes it with distilled water until it has reached the required weakness. The others reduce the health and vigor of the microbes. Salmon merely reduces their number. He has, aided by others, produced immunity in thousands of hogs and chickens by his method. The amount of immunity of every animal can be gauged by his method, and increased by successive inoculations. No animal has perfect immunity. The most insusceptible can be given the disease by a large enough dose. His attenuated virus, if properly gauged to the powers of the animal, produces a local lesion with but mild constitutional symptoms. Before his microbes have had time to multiply in sufficient numbers to become dangerous, the cells around the lesion have shut them off from the general circulation by their acquired protection. The products of their development reach every part of the system. The leucocytes, he thinks, gain immunity from immediate contact with the poison in the region of inflammation, and retain it when they become fixed cells.

This doctrine of relative immunity, which is now well established and belongs specially to no particular theory, is of the utmost practical importance. In fact, it should never be lost sight of by any practitioner. It should deter us from vaccinating a person merely because he has been exposed to, or shows symptoms pointing suspiciously toward, small-pox. Already a dose of virus may have been imbibed, and for the physician to add another, then, is criminal. People must protect themselves in advance of exposure. When they have been exposed, it is too late. Professor Law, in summing up the results of his own experiments, says: "Reinoculation with fresh virus during the progress of the disease in a patient does not mitigate the illness nor protect against a further attack, but rather insures and hastens a fatal issue." It is the last straw that breaks the camel's back. A few years ago I was in a dispensary in this city. A patient was there for nearly two hours awaiting his turn. Upon examination, a diagnosis of small-pox was made. Every doctor in the institution who had been near the patient had himself vaccinated. Luckily, the diagnosis was erroneous. Had any one of these gentlemen received a dose of small-pox virus from the patient insufficient to give him the disease, the addition made by vaccination might have assured his contracting it. The dogma of Hahnemann, that "like cures like," is at the bottom of this superstition. Vaccination is a prophylactic solely, and only such after it has run its course. To use it as a cure is dangerous and reprehensible. As well might we try to save a man from an overdose of strychnine by giving him another.

In the cultivation of pathogenic virus, all experience goes to prove that the less free oxygen we can accustom them to thrive upon, the more dangerous they become. Pasteur mitigates his virus by an opposite course. He gives them constantly increased quantities of oxygen for months together. Law, Buchner, and Salmon have increased the virulence of virus in the most marked degree by cultivation in limited supplies of oxygen for several generations. Septic bacteria that have developed in the peritonæum, away from free air, and those that have grown under the skin of domestic animals, where long setons have been introduced, are known to be the most virulent kind. The less easily a microbe can get along without oxygen, the more reason we have to be alarmed at it, if of the pathogenic kind. These facts all contribute to the support of Salmon's theory. The poison of the microbes intoxicates the cells. Retarded function allows oxygen to increase in the circulation, thus facilitating their gaining a foothold. Recovery is due to the ability of the cells to overcome the action of the poison, use up their own oxygen, and so asphyxiate the microbes. In the act of recovering from the disease they acquire their immunity. The cells, becoming habituated to the poison, can proceed with their functions in spite of it.

Such is the American guess. Since it is the best yet advanced, it would be as well for us to make use of it as a working hypothesis. Americans are proverbially good guessers. The sentiment that can see no prophets to honor in our own country or among our own kin is not yet dead. To many, distance still lends enchantment to the view. Such an hypothesis from Berlin, Paris, or London would meet with close attention and be hailed as a triumph of thought. Experiment has not yet confirmed it. A few experiments have been tried, but without success. No animal has yet received immunity by injection of the toxic products of a virus. If it ever proves a success, a revolution will be wrought in prophylactic medicine the value of which can never be overestimated. That there has been no success yet is not fatal to the theory. The experiments have not yet been numerous enough to give it a fair trial, nor are we sure that the proper conditions have been maintained. It is a difficult matter to be certain that in devitalizing the virus we are not altering its chemical structure. It is also difficult to keep up the toxic effects of a drug given hypodermically with the same steadiness as if it were being slowly formed in the body itself. The scarcity of oxygen caused by the microbes may act as an irritant to the cells, to arouse them from their stupor and compel them to struggle against the poison, much as pain compels one drowsy with sleep to keep awake. Imitate this condition in the body, exclude all sources of error from the experiments, and then, if it fails, let us cast the theory aside, even if there is no better one. When the true theory is reached, if this is not it, there will be difficulties for it to surmount that may at first appear almost insuperable.

A DEMONSTRATION OF KOCH'S COMMA BACILLUS.*

By ARNOLD STUB, M. D.,

BROOKLYN.

Mr. President and Gentlemen of the Pathological Society: The great interest shown by the scientific world in regard to the micrography of cholera asiatica, and especially to the researches of Koch in reference to the comma bacilli, has caused me to procure, through the kindness of a New York mercantile firm, from Dr. Nicati, of Marseilles, a few specimens of cholera bacilli, taken from the excrements of a patient during the fall of 1884.

Before I proceed to show them to the society I beg leave to offer a few remarks upon the subject, which, although only a recapitulation of the investigations of others, and in all probability not new to most of you gentlemen, may be of interest to some, as they will be a history in brief of what has been done in the investigations of so important a subject. The first physician who ever expressed the opinion that cholera was caused by a special poison of organic origin was Dr. Giell, of Munich, during the epidemic of 1832.

During the epidemic of 1849, Dr. Swayne, Dr. Britton, and Dr. Budd, of England, discovered special round cells in the fæcal matter which they considered to be cholera fungi. In 1866, Dr. Klob, of Germany, discovered small octahedral bodies in the mucus of the intestinal canal of cholera patients, which he thought to be the cause of cholera. During the year 1867, Dr. E. Hallier, of Jena, published an article upon the same subject, and mentioned twenty different fungi found by him in the excrements of cholera patients.

Dr. Edward Nedswetzky furnished, in 1874, a valuable monograph upon the same subject, and called those organisms, which he considered specific to Asiatic cholera, "Cholera-Bacteridien."

Previous to his discovery, an American physician, Dr. J. Wyman, published his researches in the "American Journal of the Medical Sciences" of 1867, and made the statement that all organisms of cholera excrements, if boiled for six hours in a hermetically sealed tube, would die, and never come to life again. Nedswetzky, however, proved that not all of those organisms would die, but that his Cholera-Bacteridien considered the process of being boiled for six hours as a rather refreshing bath, and came forth more alive than ever. Dr. Nedswetzky described three different kinds of Bacteridien: 1. Small, round cells, without movements; 2. The same, but more developed, of chain-like appearance and with movements; and, 3. Long, rod-like cells, which he called the genuine bacteria, also with movements. With the views of Dr. Pettenkofer, who for the past thirty years has hypothetically postulated the existence of micro-organisms, I presume that you are familiar.

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Koch, during his late researches, discovered the so-called comma bacilli, and, without attempting to give a description of the same, I beg leave to mention that by many investigators it has been maintained that comma bacilli may be found not alone in Asiatic cholera, but also in the excrements of cholera morbus, in tuberculosis, and even in the sputa of patients suffering from bronchitis.

The fact that I have met with the same experience has principally been the cause of my importation of the true comma bacilli, and, after I received the specimens, I compared them with those I had discovered in diarrhœa and tuberculosis.

Unless I fail to find this evening, upon a slide bearing a specimen taken from a case of chronic diarrhœa, a comma bacillus, I hope to demonstrate to you, gentlemen, the difference between the true comma bacilli of cholera asiatica and those curved bacilli found in ordinary diarrhœa. You will observe that the comma bacillus of Koch is a short, stout body of equal thickness at both ends. The bacillus of diarrhœa is more slender, longer, and thinner. The same is true of those curved bacilli found in tuberculosis, and sometimes in the sputa of bronchitis, which are still thinner, and I believe longer.

According to Koch, those curved bacilli found in diarrhœa and cholera nostras, which Dr. Lewis, of England, describes in an article published in the London "Lancet" of September 20, 1884, present different appearances if grown upon nutritive gelatin. The alkaline nutritive gelatin seems to be the right soil in which to raise the cholera bacilli. Sometimes the cholera bacillus has the shape of the letter "S," and upon the slides now in my possession I have found several of the double-curved specimens. I have learned, however, that in artificial cultivations the double-curved bacilli are more frequently found than in specimens taken directly from a patient.

The exact *modus operandi* Dr. Koch recommends to bring the comma bacilli into view is similar to the one applied in staining other bacilli, except tubercle bacilli, for microscopical examination.

In the preparation of the specimen from a case of chronic diarrhœa I intend to show you, gentlemen, I followed the method generally used in staining other bacilli with fuchsin. Of minor importance, although perhaps proper to mention, is the fact that methyl violet may be used instead of fuchsin as a staining medium. Cholera bacilli, according to Koch's method, are stained with "dahlia" or methyl violet for the purpose of making microscopical examination. Ordinary dry lenses are unfit for use. Water-immersion lenses, such as I use here this evening, will answer to demonstrate the existence of the bacilli; but, for the deeper study of the organisms, oil-immersion lenses of at least one twelfth are necessary. An Abbé's illuminating apparatus, such as you will see attached to my stand, from Zeiss, of Jena, is almost indispensable. Before I close my remarks upon the subject of comma bacilli of true Asiatic cholera, I desire to mention a few more, perhaps not uninteresting, facts in regard to this subject.

It is natural that the discovery of Koch should have met with full acceptance by one part of the scientific world, and with doubts, even with derision, by the other. Soon after Koch published his views upon the subject, several savants, among others Pasteur, of France, Winckler, of Germany, and others, commenced to cultivate the bacilli artificially, but failed to produce, by inoculating in some of the lower animals, a disease similar to cholera in man. Upon this fact those gentlemen based their opinion in reference to the faultiness of Koch's doctrine. If we take tubercle bacilli artificially cultivated and inoculate an animal, it will almost always be taken down with symptoms of phthisis; the same with bacilli from anthrax, or splenic fever, or with bacilli artificially raised from glanders, etc., which will produce, by inoculation of an animal, symptoms of precisely the same disease as that from which the bacilli were taken for artificial culture. I must not forget the coccus of gonorrhœa, which in dogs, rabbits, etc., produces a disease closely resembling gonorrhœa in all its details.

Upon the face of this, it appears as if the opinions and researches of the medical gentlemen above quoted were correct, but Dr. Rosenbach, in a speech which he made before the meeting of naturalists on September 18th of the past year, defended Dr. Koch's doctrine by stating the following facts: "Koch discovered that our domestic mouse was subject to a septic fever whose bacillus was of a rod-like shape. If this particular bacillus is artificially raised and another animal inoculated with it—for instance, a dog, cat, or rabbit—no symptoms of any kind will be the result; even a field-mouse is not affected if inoculated with this bacillus. If, however, a domestic mouse is slightly scratched with a needle upon the point of which a few of the organisms adhere, it will shortly be taken sick, present all the symptoms of blood-poisoning, and die within forty-eight hours. Post-mortem examination will reveal the whole system crowded with the identical bacilli. If some of the blood is spread upon gelatin, the same characteristic growths will at once begin to appear, and these, upon being transferred by inoculation to another mouse, will again produce the same symptoms, and effect the certain death of the victim. Is it not reasonable to suppose that cholera asiatica may be a disease to which our species is alone heir?"

Within the last few months, however, Dr. Nicati, of Marseilles, has succeeded in producing cholera in dogs after tying the ductus choledochus and injecting artificially raised comma bacilli. The same experiments have been lately successfully repeated by Koch in Berlin without tying the ductus choledochus, and the animals died within three days after injecting the artificially raised comma bacilli. A large quantity of comma bacilli has been found in the intestinal canal after the death of the animal.

Comma bacilli do not invade the blood near the glands, and in one case only Koch thought he had found them in the kidney. As I have mentioned the subject of artificially cultivating the different species of bacilli, I may also state herewith a very simple process by which to distinguish and to separate one species from the other.

Quoting again from Dr. Rosenbach, whom the discoveries of Koch have led to search further into the nature of the cause of septic poisoning, he discovered five different species of cocci. The first, which he considered to be the most important, is a small, round body, and can only be studied microscopically with the highest-power oil-immersion lenses. If, according to his description, a small scratch is made upon prepared gelatin with a platinum wire upon the point of which a few of the cocci are adherent, within one to two hours the furrow becomes larger and grows until it represents, upon the fourteenth day, a golden-yellow cultivation. On account of this color and the general microscopical appearance, he calls it the golden-yellow grape coccus. He further calls attention to the white grape coccus, the chaplet coccus, and to the fourth species, which, on account of its rarity, he has seldom met with, and which he describes as having the appearance of a thin, transparent varnish by artificial cultivation. Microscopically, they are of large size, with dark poles in the center. For a more minute description I refer you, gentlemen, to his work published by Bergmann, in Wiesbaden, in 1884. Every one of the above-mentioned cocci is capable of producing either pyæmic or septicæmic blood-poisoning of some kind, according to its species. Another example which the above-mentioned essayists quoted is the way in which to cultivate separately the different micro-organisms contained in cow's milk. If a few drops of milk are mixed with about a tablespoonful of so-called nutritive gelatin at blood temperature, and the whole is spread upon a plate of glass and allowed to become stiff, within three days every one of the micro-organisms contained in the milk will have its own cultivation; some appear as spots looking like porcelain, others gray, some red, and others blue. The latter are those which cause milk sometimes to have a bluish color. Each one grows separate and distinct from the rest, and they may be separately collected, examined, and transplanted.

Comma bacilli direct from the patient, or rather some of the contents of the intestine of a cholera patient, are added to a ten-per-cent. solution of peptone gelatin for cultivation. Twenty-four hours after being transplanted, indentations with sharply defined outlines appear; inside of this circle a second granulated circle shows itself, and within this we shall be able to recognize microscopically the genuine cultivation in the shape of a yellowish mass, star-shaped and with fringed edges; and these are the true comma bacilli, and have, in the hands of Nicati and Koch, produced the effects upon dogs previously related.

All the other bacilli or micrococci that are found in the excrements of cholera patients present, I suppose, a different appearance by artificial cultivation, and are easily separated and distinguished from the rest.

I would like to mention briefly something in reference to the microscopical examination of the air expired by cholera patients. Nedswetzky and Pasteur applied to the mouth of a cholera patient a tube made of strong paper, varnished on the inside and filled with gun-cotton. The patient had to breathe for about twenty-four hours through this tube and the gun-cotton, which, after being removed, was dissolved in sulphuric ether, and the resulting collodion washed with alcohol to prevent the formation of non-transparent skins, and afterward examined under the microscope.

The method adopted by the Berlin Board of Health for the examination of air expired by sick people differs so far from this that they use a glass tube, the inside of which is covered with nutritive gelatin prepared in the following manner: 50 grm. of gelatin are boiled with 500 ccm. of water. One pound of chopped meat is soaked for twenty-four hours in cold water. After the meat has been pressed, the resulting juice is filtered through fine gauze and mixed with the gelatin. Then 10 grm. of peptone and 1 grm. of table-salt are added and afterward neutralized with bicarbonate of sodium and filtered. If bacilli are in the air expired by the patient after the tube is applied to his mouth, they will be cultivated upon the soil prepared for them in the tube. I may state, however, that Koch so far has not examined the air expired by cholera patients.

The specimens you will examine this evening, gentlemen, are, first, the cholera bacilli sent me by Dr. Nicati and submitted to you under a stand from Zeiss, of Jena, with lens "L" $\frac{1}{25}$ water immersion and ocular 4, which gives a magnifying power of 1,930. The second, with a stand of Bauch and Lomb, of New York, and a Zeiss $\frac{1}{15}$ water immersion, giving a magnifying power of 1,130, will present to you the bacilli from chronic diarrhœa prepared by myself. The third specimen, to be demonstrated by Dr. Bates, of this city, with a Zentmayer stand and a Wales $\frac{1}{12}$, with amplifier, you will also find to be cholera bacilli which were sent me by Dr. Nicati.

THE EPIDEMIC OF TYPHOID FEVER IN PLYMOUTH, PA.

By HERMANN M. BIGGS, M. D.,
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The recent terrible epidemic of typhoid fever in Plymouth, Pa., has attracted much attention, and has proved to be one of the most instructive and significant that have ever occurred. The writers visited the infected town for the purpose of investigating the nature and cause of the outbreak, and especially of establishing, if possible, the supposed ætiological relation existing between the micro-organisms found in the water and those which so constantly occur post mortem in the spleen and mesenteric glands. On arriving there, it was soon found that, so far as the reservoir-water was concerned, there was little probability of being able to establish this relationship. The investigation, however, led to results which may be interesting.

The principal facts in the history of the epidemic are briefly as follows: The town, of about eight thousand inhabitants, is supplied with water from a mountain stream ordinarily small, but undergoing at times great variations in volume. This is stored in four reservoirs, or dams, situated one above the other on the stream. At certain seasons of the year the supply of water from this source is not sufficient for the town, and recourse is had to the river-water, which is then pumped directly into the mains. In the latter part of March the water in this stream was almost entirely frozen up, the reservoirs were very low, and on March 20th the water company commenced pumping river-water into the main. A portion of the town, however, was still supplied by water from the reservoir. On the evening of March 26th the pumps were stopped, and the water from the reservoirs was again turned on. At this time the two lower reservoirs were empty, and the third was less than half full, containing perhaps four hundred thousand gallons. On the stream above the first reservoir there are but two houses. The first is situated on the bank of the upper or fourth reservoir, and the second, known as the Davis house, on the bank of the stream connecting the third and fourth, immediately below the dam. The first house, belonging to the water company, stands not more than six feet from the edge of the reservoir. A few feet back of it, on sloping ground, and not more than sixty feet from the reservoir, stands a privy, which has not been emptied for six years, and the contents of which are considerably above the level of the ground surrounding it. Just in the rear of this a surface drain leads directly to the reservoir. On the opposite side of the reservoir, a few yards from its edge, a barn stands over a small ravine, which drains considerable surface, and serves to carry all matters that may accumulate there to the reservoir. Recent investigations have shown that in the second house, during the months of January February, and March, one of the occupants was sick with a severe form of typhoid fever. During this time the excreta at night were thrown out back of the house, on the snow, and very near the stream. The weather was cold during these months, and this material was probably frozen fast where it was thrown, and rendered innoxious for the time. The latter part of March (from the 25th to the 30th) the weather was warm, and at this time these deposits, which had been accumulating through so long a period, were washed into the reservoir, containing then but a small quantity of water. At just this time (the evening of March 26th) the town began to draw its water supply from the reservoir again. The first cases of the fever developed on April 5th, and before April 19th nearly three hundred cases had made their appearance.

The surroundings of the Davis house still remain in a bad condition, and apparently no precautions have been taken to thoroughly disinfect them. The privy-pit, where the evacuations from the typhoid-fever patient were thrown, has been partially covered with earth, and the house removed a few feet farther from the stream. More than this nothing has been done. The odor surrounding the house is very bad, and at the time of our visit there the wife of Davis was apparently just developing the disease. How significant this fact is appears when the entire want of all previous precaution and disinfection is considered, and the apparent inability of the occupants to at all realize how terrible is the responsibility resting upon them for the appearance of the epidemic. The owner of this house absolutely refused to remove the contents of the privy-pit until compelled to do so by the superintendent of the water company.

That the appearance of the epidemic was not due to the use of river-water is clearly proved by the fact that in forty or fifty families, which use habitually river-water supplied by the Hudson Canal and Coal Co., not a single case has occurred. This is further proved by the fact that three persons who were visiting in the town after the reservoir-water was turned on, and before April 2d, contracted the disease, and, in several families which did not move into the town until April 1st, one or more cases of typhoid fever have occurred.

That the epidemic is purely one of typhoid fever is shown by the cause, nature, and course of the epidemic, the clinical symptoms in the individual cases, and, finally, by several autopsies made by Dr. Shakespeare, of Philadelphia, in which the characteristic lesions of the disease were found.

The conclusion is scarcely avoidable that this epidemic was due to the contamination of the water in the reservoir by the stools of a single patient with typhoid fever, whose case occurred on the stream supplying the reservoir several miles distant from the town. The magnitude of the epidemic and the clearly defined relations existing between the first and the succeeding cases combine to make this one of the most instructive as well as one of the most terrible instances which ignorance and negligence have contributed to the records of disease.

With the view of determining the present condition of the water, and its possible relation to the continuance of the epidemic, samples of water were taken for analysis from different sources, as follows: 1. From the stream above the third reservoir and below the Davis house. 2. From the well at the same house. 3. From the Susquehanna River. The latter sample was taken from a point near the ferry, about twenty yards from the Plymouth shore, and about an eighth of a mile below the point at which water is taken by the water company when resort is had to the river. This sample probably represents the average composition of the water along the Plymouth shore of the river. Besides these three samples, others were taken from wells in the hilly section of the village, where the miners' dwellings are found, and where the conditions are most favorable to contamination of the wells, and where also well-water is most commonly used. The first three samples mentioned have been analyzed to the extent of determining free and albuminoid ammonia, chlorine, and solid residue. The results are given below, ammonia being expressed in parts to the million, chlorine and solid residue in grains to the U. S. gallon.

	Ammonia.			
	Free.	Albuminoid.	Chlorine.	Residue.
1.	·014	·162	·15	2·1
2.	·020	·135	·20	4·8
3.	4·241	·175	3·80	29·2

In four remaining samples, coming from wells in the village, determinations of chlorine only have been made, but the analyses will be completed as in the previous cases. The terms free ammonia and albuminoid ammonia refer respectively to ammonia existing ready formed in the waters and to that resulting in the process of analysis from decomposition of nitrogenous putrescible matter. Ammonia, of itself a harmless substance, is thus made the indicator of putrescible matter previously existing or now existing in the water under examination. These are the principles of the ammonia method of water-analysis generally known as the Wanklyn process. Free ammonia is the representative of organic matter which at some time in the history of the water has undergone decomposition; albuminoid ammonia represents its present organic contamination. Chemical analysis shows only the presence or absence of organic matter. The relation between this and germs of disease is so close that the presumption is against a water which contains it. In proportion as water is free from it it must also be free from fæcal or putrefying matter, in which such germs find the conditions most favorable to their development. But analysis establishes only a presumption. A proportion of albuminoid ammonia of ·15 part in a million may be regarded as the limit of safety for a potable water, and the same for free ammonia. Higher proportions of the latter, especially if accompanied by much chlorine, indicate contamination by urine. Chlorine is a constituent of common salt, which is commonly used in the food of men or animals, and its occurrence in the waters of an inhabited region, beyond a certain proportion not difficult to fix in any given case, is regarded as evidence of pollution by sewage. Usually it should not exceed one grain to the gallon, corresponding to nearly two grains of common salt to the gallon. The term solid residue refers to the matter left on evaporation of the water. Although it is made up partly of mineral and partly of organic matter, the measurement of the organic or volatile portion by igniting the weighed residue in a platinum dish, and subsequently weighing again, has fallen into disrepute, because much of the strictly mineral portion may also be lost by ignition, and the loss of weight is therefore difficult to interpret. In all but greatly contaminated water the solid residue may be regarded as an approximate measure of the mineral matter, and it is not advisable to draw any further conclusion from it.

Returning now to the results of the analyses, it will be seen that the water of the reservoir is slightly beyond the limit in respect to albuminoid ammonia, but not otherwise objectionable; there is, in fact, no indication present of the contamination that might be expected from the conditions about the upper dam. But it is evident that the sources of contamination above mentioned threaten the purity of the stream with each succeeding rain that drenches the soil. There can be no permanent safety from the filth that accumulates about the houses and barn at this point, unless all dwellings and outlying buildings are removed to a distance from the stream, and all accumulations of filth now there carried away. Any dwelling situated close to a stream used as a source of drinking-water is a menace to its purity. The well at the Davis house shows an enormous proportion of free ammonia, and this, together with the high figure for chlorine and an abundance of nitrates (detected by qualitative test, but not shown in the table), plainly indicates that the slops habitually thrown upon the ground about the house have reached the well, filtered by the gravel soil and therefore bright and clear, but still dangerous. If it be possible for typhoid fever to originate *de novo* in filthy surroundings and in the use of polluted water, no more remote point need be looked for as the starting-point of the disease which spread from a single patient in this house to hundreds in the village. Moreover, the time between the departure of the patient for Philadelphia and his return with the disease was less than that required for its development. Everything points, therefore, to the conclusion that the disease which spread from this house also originated there. The water of the river was not at the time of collection open to any serious objection. While it may have been muddy and unpleasant during the latter part of March, when the flow of the river was much reduced in volume, the best evidence that it was not in a dangerous condition is found in the fact of its use by the employees and tenants of the coal company as above-mentioned, without ill effect.

In the four samples of well-water, taken from different parts of the village, it has not been possible to do more as yet than determine the chlorine. Taking these determinations alone for what they are worth, they all point to contamination by drains or privies in greater or less degree. Complete analyses will be made of these samples also, but it can scarcely be doubted, from the location and construction of the wells and from the condition of the surroundings, that every advantage is offered for such contamination. In the hilly portions of the village, largely occupied by the dwellings of miners, the houses are arranged in rows one above the other along narrow streets, open and overflowing privies dot the back-yards, and household slops saturate the soil about the houses in front and rear. Mingled with these, generally on the street, are open wells of greater or less depth, but loosely walled in and easily accessible to surface-water that must sweep down the hills with every fall of rain. The possible connection between privies and wells, however, acquires a peculiar importance at this time. The transmission of fever germs from the Davis house to the village by means of hydrant-water has been plainly proved, while persons using well-water have apparently at least escaped infection. The result is a unanimous conviction in favor of the wells as sources of drinking-water. Given a village overrun with typhoid fever, devoid of drainage, and dotted with privies and wells in close proximity, the outlook is certainly not encouraging. The danger is that these wells may become new centers for the propagation of the disease. In its present condition, the hydrant-water is safer for use than that of the wells, and, with simple precautions, may be kept safe, while the wells must continually grow worse. Granting that the immediate danger may be avoided, the use of wells, in a village conditioned as Plymouth is, is a continually increasing danger. The soil is slowly becoming saturated with filth, and the wells receiving its drainage will draw their waters each year from more highly polluted sources. The only safety lies, therefore, in scrupulous supervision of the water-shed of the reservoir stream, the abolition of the wells wherever houses are thickly clustered, and the regulation of the privy system by local ordinance, so that its offensiveness may be reduced to a minimum.

(*To be concluded.*)

HÆMATURIA.

By H. RAPHAEL, M. D.,
ATTENDING PHYSICIAN TO BELLEVUE HOSPITAL OUT-PATIENT DEPARTMENT CLASS OF GENITO-URINARY DISEASES AND SYPHILIS.

Hæmaturia, usually defined as a disease characterized by the presence of blood in the urine, is, however, only a symptom, more or less intense in severity, due to a lesion in the vascular system of the genito-urinary apparatus. Although this symptom—bloody urine—is, generally speaking, so well pronounced and distinct, still a correct diagnosis is often attended with the utmost difficulty. Indeed, both the microscopical and chemical tests will often be required to form a correct diagnosis of the location of the lesion.

Urine containing blood is either blood-red or brownish-red in color; however, it may even be black, or, indeed, a dirty greenish-brown. Bright-red or bloody-red colored urine indicates that the hæmorrhage is quite fresh, and that the urine and the blood have been only recently mixed together, the salts of the urine not yet having had time to act upon the blood corpuscles. This condition is seen only in those cases where a tolerably large blood-vessel has given way. It may be well to state here that merely blood-red colored urine may be produced artificially by the administration of certain remedies, especially rhubarb. Hence it is well for the physician to be on his guard, as many patients who are suffering from chronic constipation are in the habit of chewing rhubarb for the relief of that complaint, and, in the event of their having any urinary complications, one is apt to be led into the error of considering the patient to be suffering from hæmaturia, while in reality the red-colored urine is due to the use of the rhubarb. However, this point can readily be settled by a simple test that will prove satisfactorily that the red color is due to a vegetable coloring matter. Add to some of the suspected urine a little nitric, muriatic, or acetic acid, stirring the liquid until it assumes a pale-yellow color. As a counter test it is only necessary to neutralize the acid by the aid of an alkali, and the red color is restored again. There is no albumin, or a very little, in such urine, and the amount formed will correspond to the degree of the catarrh of the bladder; but in true hæmaturia the amount of albumin in the urine is usually quite considerable.

Urine that has a brownish-red or blackish-brown color is caused by the urinary sediment containing altered blood corpuscles and methæmoglobin, or deoxidized hæmoglobin. It is also a sign that the blood has been for some time mixed with the urine, due to bleeding from smaller blood-vessels. This kind of discolored urine is to be distinguished from that met with in icterus, where some of the coloring matter of the bile is mixed with the urine. No albumin, or a very small quantity of albumin, is present in such urine, or at least not so much as would be present if the color of the urine were due to the presence of blood. This kind of dark-colored urine may, however, also be produced artificially by the administration of certain chemical preparations, especially carbolic acid; and in some instances it has even been observed where the remedy was used as a local application. The urine has generally a peculiar greenish-black color, contains only traces of albumin, and has the characteristic odor of phenic acid.

When the urine has a dirty, reddish-yellow color, it will be found to contain blood corpuscles and some colorless cell structures in considerable quantities. In parenchymatous nephritis the urine is often of a turbid appearance; and a greenish-brown is only met with in markedly alkaline urine containing blood and pus.

Omitting the various tests for the presence of blood in the urine by the aid of the spectroscope and chemicals, which can hardly be done justice to in an article of limited scope and practical purpose, we find that bleeding in the urinary apparatus may be of three kinds, namely, hæmoglobinuria (or hæmatinuria according to Vogel), capillary hæmorrhage, and hæmorrhage caused by the rupture of a larger vessel.

Hæmoglobinuria is distinguished by the fact that the coloring matter of the blood readily transudes in a soluble form into the urine. The latter is thereby rendered brownish-red in color, and occasionally assumes a varnish-like appearance. Even after allowing the urine to stand for many hours, it will deposit no sediment of blood corpuscles. It retains a uniform and persistent reddish-brown color, because all of the coloring matter of the blood is in solution. Its reaction is usually acid, and its specific gravity diminished.

Capillary hæmorrhage also produces a reddish-brown or brownish-black color, and the urine contains blood-coloring matter in solution. But it is distinguished from pure hæmoglobinuria by a deposit of sediment which consists of blood corpuscles.

Hæmorrhage arising in the urinary passages, due to a rupture of a larger vessel, imparts to the urine a light-red color; in exceptionally severe bleeding the color will even be dark-red, like venous blood. The reaction of such urine is generally neutral; sometimes, however, alkaline, owing to the predominant quantity of the alkaline blood. The urine often contains a large quantity of coloring matter in solution that is manifest when the urine is allowed to settle, and the liquid above the sediment, which consists of blood corpuscles, will be of a clear, pale straw-color. The sediment itself consists of normally shaped and normally colored red blood corpuscles. This unaltered condition of the blood corpuscles is due to the fact that the blood and the urine do not remain very long in contact with each other in the urinary passages, the latter not having had an opportunity to affect the former. Such a condition is met with in cases of rupture of a blood-vessel by ulceration of the neck of the bladder, producing a rapid and painful distension of that viscus, impelling it to an immediate expulsion of its contents; or where the hæmorrhage takes place in the prostatic portion of the urethra. In these cases but little blood is pres ent in the urine, and what little there is is not mixed with the urine in the bladder for any length of time, the admixture taking place only at the time of its being voided; hence the urine does not exercise its corroding effect upon the blood corpuscles, the latter being normal in shape and color.

For the practical physician it is of the utmost importance to be able to say where the hæmorrhage comes from, for the treatment must depend upon the location of the lesion. And, considering the complex functions and organs of the genito-urinary apparatus, we can readily comprehend the necessity of investigating more minutely the symptoms which hæmorrhage from these various parts or organs may give rise to. These hæmorrhages may occur in the urethra anterior to the prostate gland, from the neck of the bladder, from the bladder itself, from the kidney or its pelvis, and finally from all these together.

Of all of these forms, hæmorrhage from the urethra is most readily detected and easiest to diagnosticate, owing to the fact that here the blood flows continually from the penis and is not mixed with the urine, the compressor urethræ muscle preventing the blood from flowing backward into the bladder. In these cases it is only necessary to press the penis between the thumb and forefinger to squeeze out more or less blood. Occasionally the patient himself, as in a case now under treatment, will pull out a string of clotted blood, worm-like in shape, being a cast of the urethra, from the meatus. The patient's linen will often be found stained with blood. Where no complications are present, the patients, as a rule, are not troubled with frequent micturition, and, when they urinate, the blood will be seen to flow at the commencement of the act, the rest of the urine voided being clear. Often small or long coagula, vermiform in shape, are expelled at the first flow of the stream. In urethral hæmorrhage it may even be impossible to introduce a catheter, the coagula filling up the entire lumen of the canal, or one may succeed in introducing the instrument and yet no urine will flow, because the eye of the catheter has become closed up with clotted blood. This is to be borne in mind in using the instrument in cases of paralysis of the bladder complicating injuries, and hæmorrhage from the urethra. Here the *vis a tergo* of the bladder is gone, and it will be necessary to exhaust the clots from the catheter by suction with a syringe to permit the urine to flow through the catheter.

This form of hæmaturia is often seen as a complication in acute gonorrhœa, less frequently in chronic urethritis; in injuries of the penis and urethra by the careless use of instruments. Polypi and other neoplasms in the urethra, when very vascular, will thus manifest their presence. Pitha states that repeated and violent coitus will also give rise to hæmorrhage from the urethra. I have seen several instances of this kind in young men who, under the pernicious instructions of their friends, attempted to "break the chordee" while suffering from acute urethritis. In one case the hæmorrhage was so profuse as to call for surgical interference.

Bleeding from the neck of the bladder at its junction with the prostatic portion of the urethra is seldom very profuse; most frequently only a few drops of blood are expelled at the end of micturition, while the urine that is voided is clear in color. Here there is no continuous dripping of blood from the meatus as in the form described above, nor can any blood be expressed from the meatus by compressing the penis. By the aid of a catheter the urine may be drawn off free and tolerably clear, and not till the instrument is withdrawn does the bleeding set in, proving that the lesion is situated within the sphincter of the bladder. As a rule, in this form of hæmaturia we have as a complication subacute or chronic cystitis, with strangury and pain at the end of micturition, when the few drops of blood are expelled. Occasionally these phenomena are also observed in the course of a gonorrhœa during the fifth or sixth week, but here the bleeding is slight, unless very acute inflammation is present, implicating the prostate, with acute catarrh of the bladder. Where the hæmorrhage persists for, say, more than four or five days and is considerable in amount, subacute catarrh of the bladder will surely be present, with albumin in the urine, and the system more or less affected.

Of hæmaturia caused by repeated catheterization in hypertrophy of the prostate, or in acute prostatitis, and in that form accompanying morbid growths, it is merely possible to make mention here.

Bleeding from the bladder and from the kidney differs only so far from bleeding from the neck of the bladder or from the urethra that in the former the first part of the urine voided is uniform in color with the urine voided at the end of micturition, while in the latter the first part of the urine is bloody and the rest is clear, or perhaps only slightly murky.

(*To be concluded.*)

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

The Treatment of Mastitis by Bandaging and Rest. By Philander A. Harris, M. D., Paterson, N. J. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

"An Enemy Came and Sowed Tares." By Joseph Eastman, M. D., etc., Cincinnati. [Reprinted from the "Weekly Medical Review."]

Aneurysms of the Aorta, with Especial Reference to their Position, Direction, and Effects. Being an Exercise for an Act for the Degree of M. B. in the University of Cambridge. By Oswald Browne, M. A., M. B., of Trinity College, lately House Physician at St. Bartholomew's Hospital. London: H. K. Lewis, 1885. Pp. 18 and Appendix of Tables. [Price, 1*s*.]

Preliminary Report on Disinfection and Disinfectants. Made by the Committee on Disinfectants of the American Public Health Association.

Impetigo Contagiosa: its Individuality and Nature. By Henry W. Stelwagon, M. D., etc., Philadelphia. [Reprinted from the "Medical News." Also ten other reprinted articles.]

Pocket Memoranda relating to Infectious Zymotic Diseases. Arranged by Matthew Algernon Adams, F. R. C. S. London: J. & A. Churchill. [Card. Price, 6*d*.]

Catalepsy in a Child Three Years Old. By A. Jacobi, M. D., etc., New York. [Reprinted from the "American Journal of the Medical Sciences."]

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VACCINATION AFTER EXPOSURE TO SMALL-POX.

Dr. Eccles's paper, entitled "Immunity in Disease," which we publish in this issue of the Journal, seems to us one of the most notable and satisfactory contributions that have been made to the elucidation of the problem of acquired immunity against infection—a problem so knotty that he is quite justified in saying of the theories which have been propounded that, "as working hypotheses, the crudest may be of value." The author does not seek to air any speculations of his own, be they crude or elaborate, but we have no hesitation in saying that, with a rare faculty for condensing without sacrifice of clearness, he has succeeded in giving a vivid delineation, not only of the purport of the three theories that he discusses, but also of the strength of the basis of facts upon which each one of them rests. The facts evidently incline him to favor the hypothesis upheld by our countryman, Dr. Salmon; but neither his patriotism nor any personal bias he may entertain toward Dr. Salmon—and we are quite unaware that he has any—has betrayed him into characterizing that hypothesis as anything more than a "guess." If this were all that was to be said of the paper, it would still be remarkable, but, to our thinking, it has the much higher merit of constituting a conspicuous illustration of the superiority of reasoning over mere experiment. The world seldom sees a man endowed at the same time with a turn for faultless technical work and a capacity for what the French term *appréciation*—a faculty that casts all such work far into the shade. Experiment, on the one hand, and the final test of reason, on the other, must generally be carried out by different persons, and we have always maintained that, of the two, the latter was by far the higher grade.

It is in the light of these views that we have spoken of Dr. Eccles's paper in such terms of praise. We must add, however, that his choice of a concrete seems most unfortunate. He seeks to confirm his deductions to a certain extent by maintaining that vaccination after exposure to the infection of small-pox is worse than useless—that it actually increases the severity of the resulting variola, on the assumption that more is added of the identical poison which the person has already taken in. As a matter easily decided by common observation, no proposition could be more untenable, and we can not wonder at the overwhelming opposition with which it was met by the members of the Brooklyn Pathological Society, before which the paper was read. Of course, we do not agree with those who see in the effects of vaccination something curative or palliative of a small-pox that had already taken hold of the patient before the vaccination was performed, and we put out of consideration also the moderate additional irritation that may be caused by such a vaccination. Our contention refers only to vaccination after *exposure* to small-pox, and not to the procedure done after the actual manifestations of the disease have begun, or even after they have become inevitable. Had Dr. Eccles made this distinction, if only in the debate that followed the reading of his paper, he would have spiked all his opponents' effective guns; but he chose to maintain his broad statement, alleging that its truth had been "demonstrated in thousands of cases," and that Professor Law's experiments had shown that "after double inoculation with variolous and vaccinal virus an animal was always affected more than when either virus was used alone." As to the "thousands of cases," where are they to be found in literature? And, in regard to Dr. Law's experiments, if he has really so far overcome the difficulties of "variolating" the lower animals as to produce a disease at all dangerous, the profession would be glad to have a statement of the facts. In view of Marson and Ceely's investigations, how can such notions now be entertained?

A number of collateral questions were brought out in the debate, but they were not of a nature to call for special comment, except that we would here enter our protest against vaccination by means of the hypodermic syringe, as was advocated by one of the speakers.

THE SANITARY CONDITION OF THE CENTRAL PARK PONDS.

Some of the newspapers have lately broached the idea that the waters of the various ponds in the park were in a state to give rise to uneasiness from a sanitary point of view, and the suggestion has been put before the medical profession by the New York correspondent of one of our contemporaries. We have been at some pains to inquire into the matter, and, on the strength of information which we believe to be trustworthy, we feel justified in assuring our readers that there is no occasion for alarm.

Of the four considerable sheets of water within the park, exclusive of the reservoirs, it is particularly in regard to "The Pond" *par excellence*, in the southeastern corner of the park, that solicitude has been expressed. This pond bears a general resemblance to a horse-shoe in shape, but one of the arms is prolonged beyond the other. A stream of sweet water runs constantly into the free end of this arm, and the surplus water is carried away by a stream which leaves the pond at a point near the junction of the two arms of the horse-shoe. In consequence of this arrangement, more than two thirds of the entire body of water in the pond constitutes practically a part of a stream that is continually flowing, and it is safe to assume that the other third, although relatively motionless, is sufficiently prevented from becoming stagnant by the free diffusion that is undoubtedly going on all the time.

There is some reason to think that an outlying portion of the large lake which stretches westward from the terrace is in a condition bordering somewhat too closely on stagnation. We refer to the small and almost detached part that lies near the Eighth Avenue side of the park, between the drive and the bridle-path. We understand that the commissioners intend to do away with this part of the lake, and there can be little question of the wisdom of such a move. The small body of water known as "The Pool," situated on the Eighth Avenue side between One Hundredth and One Hundred and Third Streets, shows something of the green scum that is so often seen on the surface of natural ponds when they are "working." This, of course, means stagnation, but otherwise the scum is of little if any significance, being in reality the product of a vegetable growth which (if, as we think there is reason to believe, the water is not the subject of a continuous process of pollution) will in due time consume the organic matter present. The growth will then perish, and ought to be removed and subjected to a quick process of destruction, preferably by burning. We feel confident that its management may safely be left to the park authorities, and we therefore do not apprehend that it will become a source of danger to the neighborhood or to those who visit the park.

We should not like to guarantee any close approach to absolute purity in the waters of the park, but we will venture the assertion that the purest of them all will not be found within the walls of the reservoirs. It is well to bear in mind, however, that there is a degree of contamination of water sufficient to threaten the public health, and that there is another degree just perceptible enough to make a decent excuse for asking for an appropriation. Beyond all doubt, it is only the latter that can be found in the park ponds.

MINOR PARAGRAPHS.

THE AMERICAN CLIMATOLOGICAL ASSOCIATION.

Judging from the programme of the forthcoming meeting of the association, the second in its existence, the organization may fairly be said to have entered upon a career of usefulness and success. The titles of the papers that are to be read will be found elsewhere in this issue of the "Journal." Whether we consider their number, the practical character of their subjects, or the capability of their authors, they constitute a distinct advance from those that were presented at the initial meeting a year ago. This is saying a good deal, for our readers will remember that the papers then read, all of which were given in full in our columns, were of a character to arrest attention and to prove an earnest of the reality that had at last come to attach to the study of climatology in this country. Medicine may reasonably look for great benefit from this timely organization, and perhaps hydrology, thus far neglected by the American profession, may before long be given an impulse by the same body.

THE INDIANA STATE MEDICAL SOCIETY.

We think our readers will agree with us that the report which we give this week of the recent meeting of the society, short as it is, contains some features that may be said to vary from the usual monotony of society proceedings. The secretary's annual report, read at the opening session, showed things *couleur de rose*, the gist of his view of matters being that "legitimate medical practice never had a brighter outlook" than at the present time. We would like to congratulate our brethren in Indiana on this prospect, but some misgivings arise as we read of an ethical dispute concerning which the Committee on Ethics reported in favor of disciplining both parties to the difficulty to the extent of admonishing them to "differ in opinion no more." We are not much encouraged by the account of the young doctor who was so sure of his having discovered in belladonna a specific for cholera infantum that, when mildly "sat down upon" by an aged member, he retorted that it was the fate of discoverers to be laughed at at first, and that he "could stand it." But the climax is reached when we come to the tactics of a member who, having read a paper on trephining of the vertebræ, and been held up to the meeting by a practitioner from his own town as having merely pretended to do the operation in one of the cases he had reported, when, in fact, he had only "scraped the spinous process," sought for no other means of refuting such a damaging charge than an allusion to his adversary's character for veracity. No actual "chunk of old red sandstone" seems to have been thrown about in the meeting, but we trust that at future meetings nothing so suggestive of such an occurrence will happen.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 19, 1885:

DISEASES.	Week ending May 12.		Week ending May 19.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	0	6	1
Typhoid fever	8	3	9	2
Scarlet fever	82	12	74	19
Cerebro-spinal meningitis	8	7	3	3
Measles	142	22	98	15
Diphtheria	52	24	39	20
Small-pox	0	0	1	0

The Brooklyn Pathological Society Lectures.—The fourth lecture of a course given under the auspices of the society was delivered on Thursday evening, the 21st inst., at the Brooklyn Eye and Ear Hospital, by Daniel Ayres, M. D., LL. D. The subject was "Interpretations of the Microscope, with Illustrations."

The Massachusetts Medical Society will hold its one hundred and fourth annual meeting at Huntington Hall, in Boston, on Tuesday and Wednesday, June 9th and 10th. It is announced that the following papers will be read: "The Pathogenesis of Certain Affections of the Skin," by Dr. George N. Tilden, of Boston; "Consanguineous Marriages, their Effect upon Offspring," by Dr. Charles F. Withington, of Roxbury; "Labor complicated with Fibroids," by Dr. James R. Chadwick, of Boston; "The Climatic Treatment of Phthisis," by Dr. Harold Williams, of Boston; "How a Lesion of the Brain results in that Disturbance of Consciousness known as Aphasia," by Dr. Morton H. Prince, of Boston; "The Relation of Insanity to certain Nervous Affections," by Dr. Henry R. Stedman, of Roslindale; "Cremation in its Sanitary Aspects," by Dr. John O. Marble, of Worcester; "The Diagnosis and Treatment of Occipito-posterior Positions," by Dr. William L. Richardson, of Boston; and "The Influence of Ovariotomy on Surgery," by Dr. John Homans, of Boston. The Annual Discourse will be given by Dr. Franklin K. Paddock, of Pittsfield. Electrical and other apparatus will be exhibited on Tuesday, at the Institute of Technology.

The Oregon State Medical Society will hold its twelfth annual meeting at Portland on Monday, Tuesday, and Wednesday, June 8th, 9th, and 10th. Papers are expected to be read as follows: "Sprains," by Dr. G. C. Lane; "Urethral Strictures," by Dr. R. A. Urquhart; "The Radical Cure of Hernia," by Dr. A. D. Bevan; "Leucorrhœa," by Dr. C. C. Strong; "Colds," by Dr. E. P. Fraser; and "Scrofula," by Dr. O. S. Binswanger.

The New York Neurological Society recently elected officers for the ensuing year as follows: President, Dr. W. R. Birdsall; first vice-president, Dr. L. Weber; second vice-president, Dr. C. L. Dana; recording secretary, Dr. G. W. Jacoby; corresponding secretary, Dr. W. M. Leszynsky; treasurer, Dr. E. C. Harwood; members of the Council, Dr. E. C. Seguin, Dr. T. A. McBride, Dr. E. C. Wendt, Dr. A. D. Rockwell, and Dr. B. Sachs.

The Alumni Association of the Woman's Hospital in the State of New York.—A society bearing this name was formally organized on Wednesday, May 20th. A large meeting of the former house-surgeons of the hospital was held, several out-of-town members being present, among whom were Dr. Baker, of Boston, Dr. E. C. Dudley, of Chicago, and Dr. Barrett, of St. Louis. Dr. Hunter was elected chairman, and Dr. Coe secretary. The society will meet semi-annually, its object being the discussion of topics connected with gynæcology, as well as the promotion of social intercourse among the members. The next meeting will be held on the third Wednesday in January.

Small-pox.—It will be seen by the report of infectious diseases which we publish this week that a case of the disease was reported in New York during the week ending on the 9th inst. It is said to be quite prevalent in one of the suburbs of London, new cases are still cropping out in Montreal, and last week one was discovered in Boston.

The New York Post-Graduate Medical School and Hospital.—The summer term of this institution will begin on June 2d, and continue until September 10th. The arrangements for instruction include a daily clinic in each of the practical departments, and the laboratory will be open during the entire term.

Medical Legislation in the State of New York.—Bills have passed the Legislature, and are now in the Governor's hands, as follows: Establishing a hospital for the treatment of wounded persons north of One Hundredth Street in New York; exempting the property of Mount Sinai Hospital from taxation; increasing the salaries of the police surgeons; authorizing the appointment of twenty additional sanitary inspectors in New York; exempting the property of the New York Skin and Cancer Hospital from taxation; and incorporating the New York College of Medicine and Surgery, which we understand to be of the "eclectic" school.

The Worcester, Mass., City Hospital has had the offer made to it by Mr. Stephen Salisbury to erect an additional building at his own expense, and it is announced that the Council has accepted the offer with thanks.

The Death of Dr. Edward Arnold Whaley, of Brooklyn, is announced as having taken place on Wednesday, the 13th inst. The deceased was a graduate of the College of Physicians and Surgeons, of the class of 1850, and a member of the New York Physicians' Mutual Aid Association and of the Medical Society of the County of Kings.

The Death of Professor Panum, of Copenhagen, the able and genial president of the last session of the International Medical Congress, is announced in the "Medical Times and Gazette" as having taken place on Sunday, the 3d inst.

The Death of Professor Henle, the well-known anatomist, is reported to have taken place in Berlin on Monday, the 18th inst.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 10, 1885, to May 16, 1885:*

Vollum, Edward P., Lieutenant-Colonel and Surgeon. Granted leave of absence for three months, to take effect when his services can be spared by his department commander. S. O. 110, A. G. O., May 14, 1885.

A board of medical officers—to consist of Lieutenant-Colonel A. K. Smith, surgeon; Major J. C. G. Happersett, surgeon; Captain James P. Kimball, assistant surgeon—is appointed to assemble at the United States Military Academy, West Point, N. Y., on June 1, 1885, to examine into the physical qualifications of the members of the graduating class and the candidates for admission to the Academy. S. O. 106, A. G. O., May 9, 1885.

McKee, James C., Major and Surgeon. Sick leave of absence still further extended four months on surgeon's certificate of disability. S. O. 105, A. G. O., May 8, 1885.

Brown, Justus M., Major and Surgeon. From Department of the East to Department of the Platte. S. O. 105, A. G. O., May 8, 1885.

DeWitt, Calvin, Captain and Assistant Surgeon. Ordered to Department of the East. S. O. 105, A. G. O., May 8, 1885.

Corson, Joseph K., Captain and Assistant Surgeon. Leave of absence extended ten days. S. O. 109, A. G. O., May 13, 1885.

De Loffre, A. A., Captain and Assistant Surgeon. Assigned to duty at Fort Sisseton, Dakota Territory. S. O. 46, Department of Dakota, May 4, 1885.

Kane, John J., Captain and Assistant Surgeon. Leave of absence for seven days extended one month. S. O. 109, A. G. O., May 13, 1885.

Carter, E. C., First Lieutenant and Assistant Surgeon. Leave of absence extended one month. S. O. 106, A. G. O., May 9, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending May 16, 1885.*

Fessenden, C. S. D., Surgeon. Granted leave of absence for thirty days. May 12, 1885.

Goldsborough, C. B., Passed Assistant Surgeon. To proceed to Moss Point, Miss., for special duty. May 16, 1885.

Society Meetings for the Coming Week:

Monday, *May 25th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Cambridge, Mass., Society for Medical Improvement; Lawrence, Mass., Medical Club (private).

Tuesday, *May 26th:* New York Surgical Society; New York Dermatological Society; Buffalo Obstetrical Society (private); Medical Societies of the Counties of Queens (Garden City) and Rockland, N. Y.; Boston Society of Medical Sciences.

Wednesday, *May 27th:* American Climatological Association (New York—first day); American Microscopical Society of the City of New York; New York Pathological Society; Connecticut Medical Society (Hartford—first day); Philadelphia County Medical Society (conversational); Auburn, N. Y., City Medical Association; Medical Society of the County of Monroe, N. Y. (Rochester); Berkshire District, Mass., Medical Society (Pittsfield).

Thursday, *May 28th:* American Climatological Association (second day); Connecticut Medical Society (second day); New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Harlem Medical Association of the City of New York; Pathological Society of Philadelphia; Roxbury, Mass., Society for Medical Improvement (private); Cumberland County, Me., Medical Society (Portland).

Proceedings of Societies.

MISSOURI STATE MEDICAL ASSOCIATION.

Annual Meeting, held in St. Joseph, Tuesday, Wednesday, and Thursday, May 12, 13, and 14, 1885.

Tuesday's Proceedings.

The attendance was unusually large, and the papers presented were more numerous and their interest was more uniformly sustained than at any session of this society which it had been the pleasure of your correspondent to attend. The meeting was organized at the hour appointed in the morning, one of the vice-presidents taking the chair, as the president had not arrived.

Addresses of Welcome were made on behalf of the citizens by the Mayor of the city, and on behalf of the Committee of Arrangements by its chairman, Dr. Hiddens. On behalf of the association an appropriate response was made by Dr. Trader, of Sedalia.

A committee was then appointed to prepare a suitable memorial of Dr. P. V. Schenck, a recently deceased member. The report was made on Wednesday morning.

Asiatic Cholera.—The organization having been duly effected, an adjournment took place till 2 p. m., at which hour the president, Dr. H. H. Middlekamp, took the chair, and, after the reading of the list of members enrolled by the chairman of the Committee on Credentials, the first paper was read by Dr. Trader, of Sedalia. It was a brief account of his experience with Asiatic cholera. He had long ago formed the opinion that the administration of remedies by hypodermic injection offered the best prospect of favorable results. Previous to the epidemic of 1866–'67 he had supplied himself with solutions of quinine, morphine, atropine, etc.; he also had a glycerole of chloroform and of carbolic acid. Being called to see an elderly lady with well-developed symptoms of cholera of such severity that there seemed little or no chance of her recovery, he determined to afford her some relief from the severe cramps with which she was suffering. He therefore gave, as he supposed, a teaspoonful of the chloroform glycerole. Soon the patient complained that the medicine was killing her. He then saw that he had given a teaspoonful of the carbolic-acid glycerole. In a short time the patient became more quiet, and then fell asleep. The next day she was up and about, very much to his surprise, and rapidly made a complete recovery. Since that time he had made constant use of carbolic acid in the treatment of diarrhœas, especially those having a choleriform character.

The discussion which followed this paper was quite animated, and was prolonged for an hour or more. Some accepted unhesitatingly the bacterial origin of cholera, and therefore advocated the use of germicides. One gentleman repeatedly spoke of germicides as the cause of disease, evidently considering them a specific form of disease germs. Some advocated the prophylactic exhibition of minute doses of bichloride of mercury; others regarded massive doses of the mild chloride as the most reliable treatment after the disease had developed. One called attention to the impossibility of administering any efficient germicide in doses of sufficient potency and quantity to affect germs without at the same time compromising the life of the patient. Another thought that it would certainly be possible to destroy such delicate organisms as these bacteria by the administration of something which should coagulate the albuminoid material of which they were composed.

Dr. Sloan, of Kansas City, noted the fact that in the first part of an epidemic no plan of treatment seemed to be of any avail, while in the latter part the disease was very much more amenable to treatment.

In closing the discussion, Dr. Trader said that he attributed the success of the treatment in the case he had reported very largely to the anæsthetic effect of the carbolic acid rather than to any germicide action.

Atrophic Nasal Catarrh was the title of the next paper, read by Dr. J. C. Mulhall, of St. Louis. He stated that this disease did not follow nor depend upon hypertrophic disease of the nasal mucous membrane, nor was it the result of neglected and repeated "common colds." The adjacent cavities, the ethmoidal and sphenoidal sinuses, etc., were seldom affected. The disease he considered steadily progressive and incurable. What was regarded by the laity as a spontaneous cure was simply a cessation of the formation of the fœtid crusts and muco-purulent discharge by reason of the destruction of the mucous follicles of the membrane by the progressive atrophy. In his opinion the proper and thorough examination of the nasal cavities in cases of disease of those parts was greatly neglected, even by physicians who would be ashamed to prescribe for any intra-thoracic disease without a thorough and careful physical examination. He thought that the practical use of the rhinoscope should be required as a part of the course of study in every medical school. Only by such an examination could a true diagnosis of these cases be formed. The treatment he advocated was cleansing of the nasal passages daily, or several times daily, with a solution of common salt or of bicarbonate of sodium, and the administration of general tonic medicines.

Dr. Rumbold, of St. Louis, dissented from Dr. Mulhall's views in some respects. The disease was almost, if not quite, always consequent upon the hypertrophic form of disease and upon common colds. Furthermore, he believed that the adjacent cavities were generally affected, and that when they could be reached with treatment the disease could be cured.

The Neglected Precursory Symptoms of Cerebral Disease was the title of the next paper, read by Dr. C. H. Hughes, of St. Louis. The special symptoms which he discussed were such changes of temper or disposition or modes of mental action as were evinced by unnatural irritability, causeless fear, or undue conscious effort. He did not discuss the condition of insomnia or any but purely psychical phenomena.

The discussion on this paper was rather rambling, the only points of interest developed being that in a good many of these cases a palpable physical cause could be found by careful search, as was asserted by Dr. Catlett; and the reference by Dr. Mudd, of St. Louis, to the special value of close observation of symptoms as bearing upon the localization of definite cerebral lesions, and the importance of the influence of the nervous system in determining the result of surgical procedures.

The Report in Ophthalmology.—At the evening session the first paper was read by Dr. J. H. Thompson, for the subcommittee on ophthalmology. He called attention to the use of jequirity and cocaine, and to stretching of the infra-trochlear nerve in the treatment of glaucoma. He also noted with approval the tendency to use small probes and to discard the cutting instruments in treating stricture of the lachrymal duct.

Dr. Fryer made some remarks emphasizing the value of jequirity.

Bone Disease and the Treatment of Cicatricial Tissue.—Dr. Lutz, of St. Louis, then presented a bone specimen and some photographs, with reports of two cases. The bone specimen had been obtained from a leg that had been amputated for epitheliomatous degeneration of the cicatrix formed after a serious compound fracture of the tibia, which occurred some years ago. The bone showed extensive erosion produced by the malignant growth. The photographs showed the excellent results which the author had obtained in an endeavor to relieve the deformity caused by cicatricial contraction after a very extensive burn, the arm being bound down to the side for about half the distance from the shoulder to the elbow. He had succeeded in freeing the arm so that the patient now had full use of it.

Dr. Prewitt thought that epitheliomatous and sarcomatous degeneration of scars and ulcers was not very rare. He had seen several such cases. The operative treatment was a subject of considerable interest. He thought the profession owed very much to Dr. Post, of New York, for the work he had done in that field, especially in the treatment of hands deformed by cicatrices from burns. The speaker described cases in which he had secured good results in relieving deformity of the face, caused by depressed cicatrices after injury, by making a subcutaneous incision, freeing the scar from its attachment to the bone, and bringing the cut surfaces into opposition by deep sutures.

Dr. Halley, of Kansas City, called attention to the fact that epitheliomatous growths in cicatricial tissue were less liable to recur than similar growths elsewhere.

The general tendency of the discussion favored early operative interference for the removal of malignant growths. Dr. Jackson, however, stated that in every one of a number of cases in which he had removed scirrhous mammæ the growth had returned.

Malarial Disease in Children.—Dr. J. P. Kingsley, of St Louis, read a paper on this subject, drawing upon his personal experience in dispensary and private practice for data, as he found comparatively little in the text-books on the subject. Over the age of five years the manifestations of this disease differed little from those in the adult. He had seen the disease repeatedly in infants a few weeks old, occasionally in those but a few days old. He thought it possible that the infant might take in the malarial poison with the milk from a mother who was suffering from its effects. The manifestations of the disease in infants were irregular and obscure, and accordingly the diagnosis was sometimes difficult. Actual chills in young children were rare under one year; the cold stage and the sweating stage were absent; the invasion was frequently gradual. The cachexia was early developed; the complexion became pale, grayish, or yellowish. Enlargement of the spleen was more common among children than among adults. This enlargement was sometimes apparent only during or immediately after a paroxysm. There was sometimes a systolic murmur audible over the splenic region, a sound which resembled the uterine souffle. There was often a marked disturbance of the digestive organs. He had noticed two periods when children were specially liable to malarial trouble, viz., when school began in the autumn, and in the spring, when the warm weather was approaching. He had seen some cases in which epileptic and choreic manifestations were dependent upon malarial poisoning. He raised the question whether this fact did not offer an explanation of the value of arsenic in chorea. For treatment he relied on quinine, as a rule, giving two or three grains three or four times a day. Fowler's solution might be given in doses of five drops three times a day to a child of five years. In some cases he had used tincture of iodine and carbolic acid; in some the wet pack had given good results; and he had sometimes used the oleate of quinine.

Dr. Mudd, of St. Charles, stated that he had sometimes succeeded by having the patient wear upon the epigastrium a pad into which some sulphate of quinine was quilted. The pad should be dipped in alcohol before being applied to the skin. Bismuth, bicarbonate of sodium, and carbolic acid were the agents on which he relied to combat the irritability of the stomach so often present.

Dr. Nelson, of St. Louis, described a case of enormously enlarged spleen which he had seen in a child about two years old. He reported successful results from inunction of quinine with fresh lard in children under one year old. He did not find equally satisfactory results in children over that age.

Dr. F. M. Johnson thought the idea that little children did not have chills was erroneous. They could not express themselves clearly, but close observation would show that about noon-time there was a tendency to coldness of the nose, toes, and fingers. They were inclined to get into the warm sunlight. This was the origin of the popular superstition that playing in the sunlight gave children the chills. He agreed with Dr. Kingsley as to the absence of the sweating stage.

Dr. Stringfellow, of St. Joseph, did not believe that little children had malarial disease. Years ago he had discontinued the administration of quinine to his little patients, and had treated the fevers of infancy and early childhood with small doses of calomel.

Dr. Fischel, of St. Louis, had had a similar experience.

Wednesday's Proceedings.

In the morning a committee was appointed to nominate officers for the ensuing year.

The Asylum Treatment of the Insane.—Dr. Catlett, from the Committee on Psychological Medicine, presented a long paper on this subject, which was referred to the Committee on Publication without discussion.

Morbus Coxarius.—Dr. Griffith then brought before the society a patient, a lad of about fourteen years old, who had been greatly deformed from morbus coxarius since very early childhood. The thigh was flexed upon the abdomen and the leg upon the thigh. By making a subcutaneous section of the femur, between the head and the trochanter major, with an Adams's saw, and then dividing the ham-string tendons, the speaker had been enabled to straighten the limb, which he had then placed in a plaster-of-Paris dressing. The result had been most satisfactory. The boy was able to walk about the room with the aid of a cane. In going any distance, he used a crutch as well. There was some movement in the false joint, which had not been anticipated.

The President's Annual Address was the next order of business. He spoke at some length of the responsibility resting upon the profession to encourage only such young men to study medicine as were really fitted to enter upon the work. He was strongly in favor of sustaining the compulsory three-term schools. He advocated placing the licensing power in the hands of a board of medical examiners. He urged immediate action on the part of the society looking toward the founding of a State medical library, and recommended an increase in the number of standing committees.

Diseases of Children.—Dr. Hanna then read a paper from the Sub-committee on Diseases of Children. It was well conceived and well executed, discussing some of the difficulties which attend the work of the physician in treating diseases of children. He urged the use of little or no medicine, but scrupulous attention to the quality and quantity of the nutriment, and thorough familiarity with the physiological processes of child-life.

Typhoid Fever.—Dr. Wilson, of Salisbury, as a member of the Committeee on the Progress of Medicine, read a paper in which he opposed direct antipyretic treatment, regarding the fever as a necessary effect of the zymotic process, which, once being started, must be allowed to continue its course to full completion. He gave a dose of calomel at the outset to some of his patients where it seemed to be indicated, and gave quinine if there was considerable daily variation in the temperature, but his mainstay was the administration of alcohol and opium.

Dr. J. M. Allen thought the object to be aimed at was to "obviate the tendency to death." He urged very strongly the administration of tincture of digitalis, commencing pretty early in the disease, not waiting for evidences of cardiac failure. He would not give much quinine, believing that that tended to produce cerebral anæmia. He did favor the use of cold water in the form of a pack to the trunk or the anterior surface.

Dr. Dewey would give no quinine. He considered diet of great importance.

Dr. Records had tried the treatment with large doses of quinine. He knew that it would lower the temperature, but believed the course of the disease had been protracted from one to three weeks by this use of quinine. He now depended almost exclusively upon a milk diet.

Dr. Fitzgerald believed that quinine in large doses killed more than it cured. Following the plan of treatment recommended in von Ziemssen's "Encyclopædia," he fully believed that he had killed some of his patients in days past. He had learned to place great dependence upon "the cooling bath," placing the patient in a bath at 100° F. and allowing him to remain there for from ten to twenty minutes. He would rather not give opium, but would give milk freely, peptonizing it if there was failure of the digestive power.

Dr. Stringfellow favored the administration of antipyretic doses of salicylic acid.

A Collective Investigation of Pneumonia.—At the afternoon session, Dr. B. F. Hart presented a report as chairman of the Committee on Collective Investigation, giving an analysis of the answers given to a series of questions sent out with regard to pneumonia. The paper was well prepared and interesting. An animated discussion followed.

Proposed New Institutions.—Dr. E. M. Nelson, of St. Louis, offered a resolution requesting the Committee on State Medicine to consider the question of establishing an institution in the State for the instruction of idiotic or feeble-minded children, and also a central institution for the care of the chronic incurable insane, so as to relieve the overcrowded condition of the other institutions and allow of more effective classification and treatment of recent cases.

Orthopædic Surgery.—Dr. A. J. Steele, of St. Louis, read a report on orthopædics, giving an account of the modes of treatment which he himself had found most effective in the treatment of club-foot and other deformities.

The Determination of Sex.—Dr. Funkhouser, of St. Louis, read a paper on this subject. He had performed a large number of experiments upon dogs, rabbits, and common fowls, and asserted that the ovaries had very little to do with the determination of sex, but that sperm from the right testicle would produce male, and that from the left testicle would produce female offspring.

From the discussion which followed it was evident that by no means a majority accepted Dr. Funkhouser's conclusion. Some of them related experiences and observations which would certainly be accepted by most as refuting the theory advanced.

Injuries to the Large Joints.—In the evening a very able paper on this subject was presented by Dr. Brooks, of Carthage. He gave the results of his own experience in various methods of treatment, and the histories of a considerable number of cases.

The time and place of meeting was discussed, and, on motion of Dr. A. J. Steele, of St. Louis, it was decided to hold the next annual meeting in St. Louis, as the meeting of the American Medical Association was to be held there, and the time of meeting was fixed at 10 A. M. of the Monday preceding the day set for the first session of the American Medical Association.

The next order of business was the election of a president for the ensuing year. There were several candidates for the office, most prominent among whom were Dr. Catlett, of St. Joseph, Dr. Jackson, of Kansas City, and Dr. Prewitt, of St. Louis. After a pretty brisk contest and repeated ballots, Dr. Catlett was declared elected. [Dr. Catlett is Superintendent of the State Insane Asylum No. 2, and has won the esteem and respect of the profession of the State. He is worthily honored in this election.]

At a little before ten o'clock the business meeting adjourned, and at the Pacific House the members were made the guests of the local profession and other prominent citizens of St. Joseph. A banquet was spread in the large dining-room of the hotel, and, after full justice had been done to the bountiful provision that had been made for the inner man, toasts and responses were in order. The Mayor of the city made a brief and appropriate response on behalf of the city of St. Joseph. The speech of President Middlekamp was well received. One or two of the St. Louis men talked too long, and one in particular was slow in recognizing the fact that the applause which followed every sentence signified satisfaction that he must be so much nearer through. The best speech of the evening was that of one of the city editors in responding for "The Press."

Thursday's Proceedings.

Thursday morning the association was honored by a call and a short address by Governor Marmaduke.

Dr. W. F. Walker, of Mexico, presented a well-prepared Report on the Progress of Surgery.

Report of a Case of Ovariotomy, by Dr. J. P. Chesney, and the **Report on the Progress of Gynæcology,** by Dr. W. I. Heddens, both of St. Joseph, were read by title.

The Committee on State Medicine, by its chairman, Dr. J. H. Shields, of Hannibal, made a verbal report on the status of the law establishing a board of health and regulating the practice of medicine. Dr. Shields said that there had been such bitter opposition to the *personnel* of the board of health as constituted by Governor Crittenden that it had been impossible to secure any appropriation for further work. He believed that suitable effort on the part of the profession would secure the appointment of proper men by the present Governor if he was shown that the action of the Legislature was due to opposition to *the* board of health as then constituted, and not to *a* board of health as provided for in the statute. He offered a resolution, which was unanimously adopted, indorsing the statute and urging the appointment of representative men.

The Report of the Nominating Committee was then presented and adopted, by which action Dr. C. A. Todd, of St. Louis, was made vice-president; Dr. J. H. Thompson, of Kansas City, and Dr. J. C. Mulhall, recording secretaries; Dr. F. J. Lutz, of St. Louis, corresponding secretary; and Dr. C. A. Thompson, of Jefferson City, treasurer.

NEW YORK PATHOLOGICAL SOCIETY.

Meeting of May 13, 1885.

The President, Dr. John A. Wyeth, in the Chair.

Dissecting Aneurysm of the Aorta.—Dr. E. G. Janeway presented the specimen in behalf of a candidate.

Cancer of the Rectum.—Dr. A. G. Gerster presented four specimens, representing different stages of cancer of the rectum. In three cases the rectum, including the cancerous mass, was extirpated, and in the fourth case the scoop was used. The youngest patient was a man thirty-four years of age; the next youngest, a woman of fifty-four years; the other two patients were aged sixty-four and sixty-five years, respectively. In the latter case the condition of the patient, both locally and generally, warranted only scooping out of the obstructing mass within the gut, and much relief followed the operation. Two of the other patients died, one directly from the influence of the operation, and the other from pneumonia about three weeks after the operation. All the specimens presented were of the adenoid variety, and there had been copious bleeding. After extirpation the stump should be well drawn down, so that there should be as little traction as possible upon the stitches, and, in case of retraction, so that the fæces should not contaminate the wound. Much pains should be taken to free the bowels of all hardened fæces before the operation. The wounds were dressed with iodoform. Regarding the cause of cancer in these cases, all of the patients had been accustomed to the use of the syringe as often as once or twice a day, and the right hand was employed, directing the point of the syringe toward the left side of the rectum, the seat of the commencement of the disease. Dr. Gerster had found the syringe a common cause of different forms of disease of the rectum besides cancer. In the case in which death occurred as a result of the operation, much difficulty was experienced in dissecting out the mass because of the very narrow pelvis. Retraction of the stump took place. Death was due to septic infection. In the case of the younger patient a plastic operation was done six months after the original operation because of incontinence of fæces.

The President remarked that cancer of the rectum was said in the text-books to occur more frequently in women than in men, but his experience had been the contrary.

Dr. Gerster had seen twenty-one cases, the number being pretty equally divided between males and females.

Pott's Disease of the Spine.—Dr. Lewis H. Sayre presented a portion of the upper lumbar vertebræ removed from the body of a man about thirty-five years of age, who, four years ago, fell over the dash-board of a wagon and sustained a severe wrenching of the back. He was at the time also exposed to the weather. From that date he began to suffer from severe pain in the back, extending down the legs. The patient was first seen by Dr. Taylor, and afterward by Dr. Janeway, who, thinking there was disease of the spinal column, sent the patient to Dr. Sayre. A diagnosis was made of incipient Pott's disease, there being apparently very slight projection over the last dorsal vertebræ, and other symptoms pointing to that disease. It seemed also probable that there was slight myelitis. The patient wore a jacket and jury-mast, which gave great relief. The case was taken into the courts, and certain well-known neurologists testified that there was no disease of the spine, but that the symptoms were due to lesion within the cord. Some time before the patient's death, which was in May, 1885, physical examination showed tubercular laryngitis and pulmonary tuberculosis, and shortly before death symptoms developed of tubercular meningitis. The autopsy showed basilar meningitis, and tubercles in various organs of the body, including the lungs and larynx. There were two ulcers in the upper lumbar vertebræ, communicating with a psoas abscess. The cord had not yet been examined microscopically. Some tubercles were found on the meninges.

Dr. Janeway remarked that, as had appeared in the history of the case, he had seen the patient, and had thought there was probably commencing Pott's disease. The case showed the importance of not being too positive concerning the possible results of a railroad or other injury; for instance, some held that such injuries could not cause disease of the spinal column. In the present case some of the neurologists who testified in behalf of the defendant maintained that there was posterior spinal sclerosis, others that there was multiple sclerosis, and others still that there was lateral sclerosis, and it was this diversity of opinion among the defendant's witnesses that caused the patient to receive such great damages.

Dr. V. P. Gibney had been very much interested in the history of the case because of the possible final results of such an injury. He at present had a patient under observation who had sustained an injury giving rise to comparatively slight immediate symptoms, but it was not certain that the symptoms would not in time assume a much graver character.

The President had once attended a man who received an injury while running an elevator, giving rise to paralysis of the muscles of the leg, bladder, and rectum, pointing to fracture of the vertebræ and myelitis. A compromise was effected, and the case was taken out of the courts. The patient was to-day, some years after the accident, apparently perfectly well.

The Pathology of Ether Narcosis.—Dr. R. W. Amidon presented the viscera of a cat dead from inhalation of ether. They showed congestion of the abdominal viscera, and over-distension of the right side of the heart, while the left contained no blood. It had been stated that death from ether narcosis was due to paralysis of the heart, but Dr. Amidon thought this case plainly showed that such was not the case, for the right auricle could still be made to contract, five hours after death. The real cause of death was respiratory failure. This pointed to the means of resuscitation in such cases, namely, artificial respiration, atropine, and, if necessary, venesection.

Dr. Janeway thought the usual cause of death during etherization in the human subject was obstruction to the trachea by vomited food. He had several times aspirated the right side of the heart in congestion of that side of the organ after contraction had ceased, but had not yet succeeded in reviving the patient.

The President had brought on respiration in one case of obstruction to the larynx from a blood-clot fifteen minutes after respiration had ceased.

Dr. Gerster had lost one patient during etherization, artificial respiration proving of no avail. Previous to the operation, which was for goître, there had been marked dyspnœa. At the autopsy, catarrhal disease of the lungs and disease of the heart were found. He had resuscitated one patient whose heart and respiratory organs had ceased to act on the admission of air into the pleural cavity; Silvester's method caused the heart to beat after four minutes by the watch, and respiration commenced three minutes later.

INDIANA STATE MEDICAL SOCIETY.

Thirty-fifth Annual Meeting, held in Indianapolis, Tuesday, Wednesday, and Thursday, May 12, 13, and 14, 1885.

Tuesday's Proceedings.

About two hundred delegates were present when the roll was called, and the attendance had nearly doubled by the time the afternoon session opened. The meeting was called to order by the president, Dr. John H. Woodburn, of Indianapolis. After a prayer, by the Rev. Reuben Jefferys, the Committee on Finance and Credentials was appointed.

The Secretary's Annual Report was then read, showing a membership of nearly fifteen hundred. It was expected that Crawford, Harrison, Laporte, Shelby, Spencer, Vermilion, and several other counties would shortly organize societies. Reports from fifty-three societies showed that there had been seventy-nine admissions, three expulsions, fourteen deaths, fifty-four removals, twenty withdrawals, and seventy suspensions. Seventeen societies had not yet reported. The utmost harmony and good-will seemed to prevail among the local societies, and legitimate medical practice had never had a brighter outlook.

The Committee on Publication reported, through its chairman, Dr. Maxwell, that fourteen hundred copies of the "Transactions" had been prepared and distributed, at a cost of $711.90. The report was referred to the Committee on Finance.

The Report of the Treasurer, Dr. G. W. H. Kemper, of Muncie, showed the receipts to have been $1,194.78, and the balance on hand to be $51.17.

The Human Pancreas was the title of the first paper, read by Dr. David C. Bryan. It gave an anatomical and physiological description of the pancreas and its secretion, and accounts of several cases of pancreatic disease, with suggestions as to treatment. The paper was discussed by Dr. J. F. Hibbard, of Richmond, Dr. F. W. Beard, of Vincennes, and others, and referred to the Committee on Publication.

A Delegate from California, Dr. Ruggles, of Stockton, was introduced, and made a short address.

Should Consultations be encouraged or discouraged? was the title ot the next paper, by Dr. Woods, of Seymour.

Alcoholic Inebriety was the title of a paper read at the afternoon session, by Dr. William Lomax, of Marion, in which indulgence in drink was regarded as a disease, to be treated as such. Although the production of liquor could never be entirely stopped, and ought not to be, its sale could be put under greater restrictions and its use much curtailed.

An Ethical Affair was then reported upon by the Committee on Ethics, that of a slight difference of opinion between two members of the Grant County Society. The committee took the ground that both members should be admonished "to differ in opinion no more." The decision was received pleasantly, and appeared to satisfy everybody.

Cancer of the Eye.—Dr. J. C. Stillson, of Indianapolis, read a paper on this subject. It dealt largely with histology, and was illustrated with colored drawings. The conclusion was reached that it was impossible to distinguish between benign and malignant growths of the eye at the outset, even with the microscope.

Strangulated Hernia was the subject of the next paper, by Dr. Wilson Hobbs, of Knightstown, in which two cases were related. A very interesting discussion followed, in which Dr. John Chambers, Dr. Eastman, of Indianapolis, Dr. Myers, of Fort Wayne, and Dr. Kithcart, of Columbia City, took part. The last speaker, in particular, condemned undue efforts at taxis.

Addison's Disease.—Dr. Evan Hadley, of Indianapolis, read a paper on this subject, in which he related the history of a case. In the discussion, Dr. T. J. Powell mentioned a similar case that he had seen.

Cholera Infantum was the subject of the next paper, by Dr. W. B. Ryan, of Willow Grove, who maintained that belladonna was a specific for the disease. He had used it in a great many cases, and had never seen vomiting or purging after a dose. "Try it," he said, "and cry '*eureka!*'" In the discussion, an aged physician remarked that he would like to see the young doctor again in five years, when, he had no doubt, his cry would be, not *eureka*, but "I seek it." The author answered that Galen and all the other discoverers in medicine had once been laughed at, and "he could stand it."

The President's Address was read at the evening session, the vice-president, Dr. J. S. Gregg, of Fort Wayne, in the chair. Speaking to the question of our real increase in knowledge and improvement in practice, the president reviewed the practice of forty years ago, and compared it with that of the present time. His conclusion was, not only that the profession had gone steadily onward, but that a complete metamorphosis had come over it. Remarks upon the subject were made by Dr. Lomax, of Marion, Dr. Moffett, of Rushville, and others, largely of a congratulatory nature.

Wednesday's Proceedings.

Officers for the Ensuing Year.—In accordance with the report of the Committee on Nominations, officers were elected as follows: President, Dr. J. S. Gregg, of Allen County; vice-president, Dr. W. H. Hurst, of Montgomery County; treasurer, Dr. G. W. H. Kemper, of Delaware County; secretary, Dr. E. L. Elder, of Marion County; assistant secretary, Dr. W. H. Lopp, of Bartholomew County.

Trephining and Resection of the Spine, with a Report of Three Cases, was the title of a paper, read by Dr. C. B. Stemen, of Fort Wayne, which created quite a stir, as Dr. W. H. Myers, of the same city, denounced the report of one of the cases as false, and produced drawings of the spine in question, made by himself after the operation, by permission of the coroner. He stated that Dr. Stemen had simply scraped the spinous process a little, although he said he had trephined. Dr. Stemen closed the discussion with the simple remark that he would not answer any of the charges, but would only refer to Dr. Myers's reputation for veracity.

After a report by the Committee on Finance, approving of the accounts of the treasurer and other officers, the following papers were read: "The Geographical Pathology of Consumption," by Dr. G. W. McCaskey, of Fort Wayne; "Hereditary Phthisis Pulmonalis," by Dr. J. L. Conti, of Deerfield; "Consumption in Indiana," by Dr. C. S. Bond, of Richmond; and "The Infectious Nature of Tuberculosis," by Dr. Walter Schell, of Spencer. A general discussion followed on the subjects of these four papers.

Epidemics in Indiana.—At the afternoon session Dr. George Sutton, of Aurora, read a paper entitled "On the Epidemics in Southern Indiana in the Last Fifty Years," and Dr. Gatch, of Lawrenceburg, read another entitled "On Diphtheria during that Time." The two were discussed together.

Post-partum Hæmorrhage was the subject of the three following papers, by Dr. J. S. Hibbard, of Richmond, Dr. Moses Baker, of Stockwell, and Dr. M. F. Thomas, of Richmond, and they were discussed together.

Emmet's Operation.—Dr. L. H. Dunning, of South Bend, read a paper on this subject, which was discussed at some length by several members of the society.

At the evening session papers were read as follows: "Ganglia," by Dr. W. H. Myers, of Fort Wayne; "Dislocation of the Knee Joint," by Dr. George F. Chittenden, of Anderson; "Abdominal Surgery," by Dr. J. Eastmen, of Indianapolis; and "The Local Treatment of Carbuncle," by Dr. J. F. Hibbard, of Richmond.

Thursday's Proceedings.

Several papers were read by title, and a resolution was passed providing that in the future the annual meetings should continue for two days instead of three, that papers must be in the hands of the Committee of Arrangements twenty-five days before the meeting, and that all papers of over three thousand words be returned to their authors, to be cut down to the required length—in case of refusal the same not to be published.

Committees for the Ensuing Year were appointed by the president as follows: *Committee on Ethics.*—Dr. F. S. Newcomer, of Indianapolis, Dr. J. E. Lyons, of Huntington, Dr. F. W. Beard, of Vincennes, Dr. H. D. Wood, of Angola, and Dr. William Flynn, of Marion. *Committee on Publication.*—Dr. E. F. Hodges, of Indianapolis, Dr. Allison Maxwell, of Indianapolis, Dr. E. M. Elder, of Indianapolis, Dr. W. H. Schultz, of Lebanon, and Dr. G. W. H. Kemper, of Muncie. *Committee of Arrangements.*—Dr. J. Chambers, Dr. J. M. Oliver, Dr. G. V. Woolen, Dr. D. C. Bryan, and Dr. L. L. Todd, all of Indianapolis.

After a few remarks by the new president, the society adjourned, to meet in Indianapolis on the second Tuesday of May, 1886.

NEW YORK ACADEMY OF MEDICINE.

Meeting of May 7, 1885.

The President, Dr. A. Jacobi, in the Chair.

The Physical Examination of Weak Chests, and the Differential Diagnosis of the several Forms of Early Phthisis.—Dr. E. Darwin Hudson Jr., read a paper with this title. Reference was made to the writings on the physical examination of the chest of Avenbrugger, Laennec, Piorry, Skoda, Allison, Gairdner, Walshe, Flint, Loomis, Leaming, Cammann, Clark, and others. It was evident that the chapter on physical examination of the chest, if regarded as closed, must be reopened to admit new facts and new interpretations of the old acoustic laws, in the light of a broader and changing pathological view. What he should offer regarding the differential diagnosis of the various forms of early phthisis did not relate to theories concerning the nature of the disease, but was an expression of conclusions drawn from personal observation and study during the past eighteen years. He regarded inflammation as the chief factor in developing pulmonary phthisis, and he believed that the great majority of cases of phthisis occurred in those not predisposed to it by heredity. In addition to the generally recognized physical signs of early phthisis, he believed that many students of chest acoustics had come to differentiate between forms of fibroid consolidation according to whether the process started from the bronchi, was centric and diffuse, or was distinctly of pleural origin.

When over a definite area the percussion note was decidedly flat or high-pitched, with relatively but a slight conduction of the normal sounds, unchanged in pitch and quality, and when the sounds were feeble and distant, the fibroid deposit was likely to be peripheral, starting from the pleura, the product of an imperfectly resolved pleuro-pneumonia, or of a local plastic pleurisy leading to underlying hyperæmia and subsequent hyperplastic fibroid. Whenever the flatness on percussion and the obscurity of the respiratory sounds were pronounced, especially if bilateral and attended with great reduction of respiratory motion on both sides, the deposit was likely to be more generally and diffusely interstitial. When the percussion note was relatively but slightly raised in pitch, being rather deficient in duration and devoid of pulmonary quality, and there co-existed a general enfeeblement and absence of volume of the respiration, the deposit was likely to have started from the bronchi. The presence of an exaggerated tubular quality of the inspiratory sound, with slight increase of pitch, with retarded tubular expiration, with or without râles, would be a further aid in determining whether the case was one of peribronchitis, bronchial thickening, or bronchial rigidity and dilatation.

Dr. Hudson spoke of the importance of examining all parts of the chest. Two areas, almost wholly passed over by examiners, often afforded most valuable information. They were the high axillary region and the inter-scapular space. In some cases of irregular pleuro-pneumonia, low and indefinite forms of pneumonia, the result of squalor and dissipation, or of malaria, or secondary to phthisis, the area of pneumonic consolidation, as evinced by bronchial breathing, existed only in the axilla. Particular attention was directed to the manner of examining the inter-scapular space, and to the advantage of examination in this locality because of the close proximity of the larger bronchial trunks and the hilum of each lung. Dr. Corson, more than any other person, had emphasized the importance of taking advantage of the great mobility of the scapulæ as a means of increasing the inter-scapular space. The patient should cross the arms in front, raise them upward at an angle of forty-five degrees, and let the hand grasp the convexity of the shoulder. A resort to this manœuvre greatly facilitated the study of chronic bronchitis, peribronchial fibroid deposit, and all forms of bronchial and pulmonary disease.

Regarding inspection, the author felt convinced that in a large proportion of chest cases, and in a large number of phthisical cases, an approximate diagnosis could be made by this means alone. Aside from the ordinary features generally noted during inspection, he would call attention to three in particular. The first related to the direction of the clavicle. Broad shoulders and a nearly horizontal inner half of the clavicle gave promise of fully developed lungs. The upward angle of the line of the clavicle as a whole was, in healthy chests, within a range of from ten to twenty degrees. When the clavicle was deflected backward and upward, at an angle of from thirty to forty-five degrees, it was an indication that the chest development was defective, and the presumption was in favor of lungs undeveloped at their apices.

A second point referred to the relation which slight curvatures of the spine bore to the condition of the respiratory organs. In a considerable number of cases of lateral curvature it would be found that its appearance had been subsequent to a pronounced attack of pleurisy or pleuro-pneumonia, or a period of long-continued unilateral thoracic pain with associated cough. It would also be noticed that in many of these cases the concavity of the primary curve and the convexity of the compensatory curves were toward the side presenting slight or notable diminution of respiratory motion; also that the curved section lay within a zone of the chest affording evidences of thickened pleura, fibroid phthisis, or peribronchial consolidation. Dr. Hudson inferred that in such cases the intra-thoracic changes of one side diminished the respiratory action of the overlying muscles, and that the stronger antagonizing muscles had caused curvature to that side.

A third point was the importance of observing changes in the individual intercostal spaces, the supra-clavicular space, the supra-sternal notch, and the epigastrium. A pronounced depression above and below the clavicle, occurring in a person with ordinary breadth of shoulders, and whose clavicles were but slightly deflected upward, was indicative of consolidation at the apex. The sinking in of the infra-clavicular space or of special intercostal spaces, synchronously with the inspirations, especially in chests which in general retained full expansion, pointed to peripheral fibroid degeneration of the lung with adhesion of the pleura. But if the expansion of the chest was diminished or suspended, the inspiration being diaphragmatic, then sinking of the supra-sternal notch, of the supra- and infra-clavicular and intercostal spaces, and of the diaphragm, synchronously with inspiration, pointed to a more diffuse and deeper deposit, shooting from the periphery to the center of the lungs.

He had also found in some cases fibroid contraction limited to the portion of lung covering the heart permit of cardiac impulse over an extended area. He thought there were three reasons why phthisis attacked the apices of the lungs more frequently than other portions—namely, because the apices were enfeebled by contraction of the upper part of the thorax; because this region was soonest reached and most easily invaded by catarrhal inflammations descending from the larynx and trachea; and because, when so invaded, it was not favorably affected by the energetic force of cough. Palpation was particularly valuable in relation to fremitus. As to percussion, it would be undesirable to detract from its diagnostic value, but its exclusively pulmonary origin was easily disproved.

Dr. Hudson devoted considerable attention to myo-œdema, first described in 1830 by Graves and Stokes, and named myoœdema by Lawson Tait in 1871. The result of Dr. Hudson's observations concerning this so-called muscular tumor following a gentle stroke over the chest of phthisical patients was as follows: 1. That it was usually present in established phthisis where long-standing and progressive intra-thoracic disease had wasted the body. 2. That it frequently existed in incipient phthisis. 3. That it was exceptionally present in any other disease. His manner of calling out this physical sign was to percuss with a quick, firm blow with three finger-tips of the right hand upon the costal cartilages of either side. Instantly three little conoidal tumefactions appeared, remaining from one to three seconds. He was disposed to regard it as worthy to be added to the associated signs of pulmonary phthisis.

Speaking of the auscultatory signs, he said the absence or modification of the vesicular murmur had always, and properly, been regarded as a first warning of phthisis. He had for a long time regarded the conducted whisper as equal to or greater in value than changed vesicular murmur and conducted voice, and of far wider application in determining and differentiating the early stage of the three forms and the mixed cases of phthisis.

Dr. A. L. **Loomis**, while he might not agree with Dr. Hudson altogether, in the main could indorse the positions taken. Regarding inspection, those who had examined chests for many years came to recognize more and more the importance of careful inspection before proceeding to other methods of physical exploration. It often happened that the appearance of the chest compelled a diagnosis of early phthisis. He did not regard slight deformities of the chest as of much significance, for in examining over fifteen hundred healthy chests he had not found more than ten per cent. entirely symmetrical. When he first began to study physical exploration, he received the impression that the infra-clavicular space gave the most important indications of the condition of the respiratory organs, but he had afterward found that the inter-scapular space was of greater importance. He had found physical signs of phthisis in the inter-scapular space when they could not be found elsewhere. He also indorsed what the author had said regarding the value of an examination of the axillary space. As to vocal fremitus, he had long since ceased to regard it as of great value in physical exploration; certainly it was of very little value in the early stage of phthisis. He laid more stress upon the importance of percussion than the author of the paper would seem to do, but it was often performed in a faulty manner. The whispered voice indicated to him far more than did the spoken word; it told him more regarding the condition of the pulmonary tissue, but especially regarding that of the pleura. The vesicular murmur varied so greatly in different persons and in different modes of breathing that one had to listen long before he could recognize slight variations which experienced auscultators professed were present. He could not recognize the vesicular murmur which was said to occur after the suspension of the inspiratory act; he had, however, often heard a muscle-friction sound. He regarded as of importance in the diagnosis of early phthisis three changes in the vesicular murmur—namely, softness, harshness, and interruption. The soft vesicular murmur, which was not heard in children, which was lost in old age, but which was present in the middle period of life, was very important. If it was absent in middle life, and replaced by a harsh sound, it indicated that there were changes in the bronchi—very likely tubercular changes which had not yet given rise to consolidation, and which might soon be followed by hæmorrhage. The significance would be greater if there was also a slight waviness of the inspiratory murmur.

Dr. R. C. M. **Page** said that, while Stokes and Graves had seen myo-œdema more frequently in the early than in the later stages of phthisis, his own experience had been the opposite. In his observation of about a hundred cases of phthisis pulmonalis during the past winter, he had invariably found that, as the disease progressed and the patient became more emaciated, the sign became more perceptible. Lawson Tait had observed it most marked on the side where the disease existed, but the speaker thought this was not invariable; he had found the sign most marked on the side where the greatest amount of emaciation was present. He thought it was due to muscular contractility, and that it existed in all cases of phthisis pulmonalis, and in some cases in which the other physical signs were not yet apparent.

Dr. E. G. **Janeway** had seen enough of myo-œdema to feel convinced that it was an unreliable sign of phthisis. Not only could it be made to appear over the chest, but also over the pectoralis major, the deltoid, the muscles of the abdomen, and those of the thigh. It could be most easily seen in emaciated subjects. It was due to muscle reflex or contractility. Regarding physical signs of phthisis, the most any of us could do was to say that certain signs when present indicated the condition of the lung beneath, that condition being either a condensation or partial consolidation, or a local bronchitis. The greatest difficulty was to determine what was the significance of such local condensation, consolidation, thickening, or bronchitis. There were chances of error in observation as well as in interpretation, and, consequently, no method of physical exploration should be neglected in doubtful cases. He attached special importance to percussion at the beginning and end of full inspiration, particularly in the supra-clavicular and supra-spinous regions. He would say that if there was any sign of value in the early stage of phthisis, it was the presence of râles in the small bronchi limited to the supra-scapular and the supra-clavicular fossæ. Subcrepitant râles in these regions in a patient of depreciated general health and a hacking cough were very significant. He also referred to the importance of determining the exact significance of consolidation if it was present, and then spoke of the tubercle bacilli, which should always be looked for by the most approved methods of microscopical study.

Dr. **Hudson**, in closing the discussion, said he had not hoped to cover the entire subject of the physical exploration of the chest in his paper, but he agreed in the main with what had been said in the discussion. He did not regard the term myoœdema as correctly expressing his ideas concerning the cutaneous tumefaction or elevation observed under the circumstances referred to; he did not regard it as a muscle wave or reflex at all, but rather as a skin reflex, or cutaneous intumescence, as it had aptly been described. The elevation of the cutaneous surface in urticaria, for instance, would not be regarded as due to muscular contractility. He had not spoken of the tubercle bacilli, regarding that question as still unsettled.

BUFFALO MEDICAL AND SURGICAL ASSOCIATION.

Meeting of May 5, 1885.

The President, Dr. Charles G. Stockton, in the Chair;
Dr. Frank H. Potter, Secretary.

The Causes and Treatment of Lithæmia.—Dr. James W. Putnam read a paper with this title. He said that in the exciting hunt after bacteria, micrococci, and other minute forms of life, as being the causes of pathological conditions, the tendency had been to overlook and slight the chemical origin of disease. The symptoms which an impoverished or perverted blood supply might give rise to were more tangible problems to study than the question of whether a bacillus was the cause of the disease or its result. The student of the chemical origin of disease found in lithæmia perverted physiological conditions brought on by a disobedience of the laws of eating, drinking, and exercise. The nutrition of the tissues was faulty—the blood supply containing certain noxious principles. These noxious principles must be removed by change and regulation of the diet, and by such medicines as he would mention. His attention had first been called to this subject by Dr. G. H. Lyman's article in the "Boston Medical and Surgical Journal" for December 13, 1883, entitled "Tinnitus Aurium and Vertigo as Prominent Symptoms of Lithæmia." This article referred to Dr. Da Costa's paper on the "Nervous Symptoms of Lithæmia," published in the "American Journal of the Medical Sciences" for October, 1881. From this the step was easy to consult Prout on "Lithic-Acid Diathesis," published in 1843, Draper on the "Nature of the Gouty Vice," 1875, and Fothergill on "Gout in its Protean Aspects."

This in the main was the literature of the subject. Prout long ago stated that lithic acid resulted from the imperfect assimilation, not only of the albuminous principles of the blood and chyle, but also of the albuminous textures of the body. This imperfect assimilation prevented them from being raised to the perfect standard that fitted them to become component parts of the blood. He presumed that the kidneys had the power to separate those products of imperfect digestion from the blood as lithate of ammonium. Budd, after stating that it was Dr. Prout who first called our attention to this class of diseases, said that Fothergill had taught us that certain peptones, instead of undergoing further elaboration, were turned aside and broken up prematurely into lithic acid and the lithates. These lithates did not represent tissue waste, for they had never been tissues. Draper also added that these products of imperfect assimilation, combining with the alkaline bases, were not only eliminated in excess by the kidneys, but were diffused through the tissues, giving rise to many forms of mechanical irritation.

Another theory assigned the cause of the production of lithic acid and the lithates to the imperfect formation of urea by the liver, the idea being that, on some account, the process of tissue metamorphosis was arrested before the principles destined for excretion could be transformed into urea. At any rate, the problem for us was, What were the unfavorable circumstances which caused nutritive material to be diverted from its destination and thrown off from the economy as useless, thus robbing the tissues of their needed supply? What were the causes? What were the symptoms? What was the remedy?

Among the first causes must be mentioned the hereditary tendency to gouty and rheumatic disease. The exciting causes lay in an unphysiological mode of life—careless eating and drinking, both as to quantity and as to quality. Over-eating threw more digested material into the blood than was needed for the repair of the tissues, and this over-supply was eliminated in the form of uric acid. An excess of carbonaceous food, even if the total quantity was normal, produced a like result. The oxygen in the blood was unable to perform its part in the chemical processes necessary to assimilation. This imperfect oxidation stopped at the formation of lithic acid, which accumulated in the tissues, producing its peculiar irritation. Whether the cause was too much food or too small a supply of oxygen, the result was the same. Thus the epicure and the dweller in an overcrowded and ill-ventilated tenement-house might exhibit the same symptoms from the accumulation of lithic acid in the organism.

As to the symptoms of the disease, their name was legion. A lithic-acid deposit might occur in any of the tissues of the body, each tissue responding to the irritation thus produced in its own peculiar way. The liability of the mucous membranes to disease from irritation was well known. In the gastro-intestinal tract disease was readily developed. Many symptoms called dyspeptic should really be called lithæmic. They were flatulence, costiveness, and intestinal colic; sometimes there was diarrhœa. If the deposit was in the muscular system also, there was pain with stiffness and soreness of the muscles as in rheumatism; if in the skin, there might be various skin diseases, such as acne, eczema, erythema, an intolerable itching, or else the pins-and-needles sensation. These produced visions of impending paralysis, which made the patient gloomy and despondent. The nerve sheaths might also become inflamed from this deposit, and sciatica and other neuralgias result. Other symptoms simulated those of severe brain or spinal disease, such as vertigo, tinnitus aurium, cramps, muscular twitchings, sleeplessness, and irritability.

Cases from Dr. Lyman and Dr. Da Costa were then quoted in which the nervous symptoms had been unusually severe. Besides the symptoms already mentioned, Da Costa had reported cases in which there were spells of languor and lassitude; others in which there was great depression of spirits amounting almost to melancholy. But, above all, the temper was unstable odors; were annoying, sounds were infuriating, nothing was pleasing; the man was "on edge," an acid blood making an acid disposition. Of the mental faculties, the memory suffered principally. This was recovered, however, as the patient regained his health.

The author then reported in detail three cases which he had had under observation. These cases presented most of the symptoms that had been mentioned, and corroborated the theoretical considerations above set forth. During their recital he outlined his treatment for this disease. The ætiology and pathology being accepted, the treatment should be directed to the removal of the cause.

If it was a diminished supply of oxygen, and the patient was living in close rooms, we should increase the supply by larger quarters, and advise exercise, so that respiration might go on more rapidly and thus the blood be more thoroughly oxygenated. If the error was in over-eating, the patient should be restricted and his diet should be simple. Meats, fats, pastry, rich gravies, and all fried foods should be prohibited. Add to this exercise and skin friction, and the patient would have begun to live aright. As to medicine, he was in the habit of giving five grains of blue pill every night for six nights, in the beginning of the treatment, with Hunyadi-János water in the morning. After each meal an alkaline powder should be taken consisting of

Bicarbonate of sodium	one part;
Nitrate of potassium.................	two parts;
Rochelle salts	three parts.

Of this a teaspoonful was dissolved in a part of a glass of water and taken after eating. Patients were constantly met with who could be kept free from the lithæmic condition only by the most rigid and unrelaxed attention to diet, exercise, and the care of the excretions.

Dr. Putnam then presented his conclusions as follows: 1. Lithic acid and the lithates in the organism were explained on two different theories: (*a*) That they represented peptones arrested in the process of assimilation from a lack of oxygen. (*b*) That they represented arrest of tissue waste on the way to become urea. 2. Whichever theory was accepted, we knew that the presence of these substances was due to improper diet and lack of exercise. 3. The lithic-acid poison might affect any tissue and give rise to numerous symptoms; notably pain in the muscular system, the various neuralgias, itching and perverted sensations in the skin; gastro-intestinal symptoms, such as costiveness, flatulence, dyspepsia, and intestinal colic; cerebral symptoms, including cephalalgia, vertigo, tinnitus aurium, irritability, and loss of memory. 4. The treatment was simple, consisting of plain living, on fish and vegetables, regular exercise, and finally alkaline mineral waters and the alkalies generally.

Dr. F. W. Bartlett reported a case in which the symptoms had been severe, but which had yielded to treatment similar to that advised by Dr. Putnam. He called attention to the fact that the nails often presented transverse, instead of longitudinal, lines in patients suffering from lithæmia, and said that Bright's disease and some other diseases, such as endocarditis, might often be primarily cases of lithæmia.

Dr. M. D. Mann had had some personal acquaintance with the disease in question. He believed heredity to be a very important factor in the disease. Some members of a family might suffer from gout, others from rheumatism, and still others from lithæmia, as it had been described by Dr. Putnam. He had also observed that women at the menopause frequently suffered from this disease. Among the symptoms of which they complained at this time he specially mentioned great irritability of the bladder and a watery leucorrhœa associated with an elytritis of a low grade. These and their other symptoms might often be made to disappear by careful attention to the diet and exercise. As to treatment, he preferred a meat to a vegetable diet. He thought Dr. Putnam had not sufficiently considered the important part the starches and the sugars played in the production of lithæmia. It was important to avoid the use of them altogether, if possible, in these cases. It was also necessary for the patient to abstain from alcohol, beer, and the sweet wines, as they were potent factors for evil. Thorough mastication was likewise an important point in treatment.

Dr. Cronyn thought the question of heredity had some bearing on the difference in the lines of treatment advocated by Dr. Mann and Dr. Putnam. He called attention to an order of the Roman Catholic Church—the Trappists—whose members never suffered with gout. They lived exclusively upon a vegetable diet and drank no wine. They generally attained to a very old age.

Dr. Hinkel considered lithæmia a not infrequent cause of recurrent amygdalitis. Catarrhal conditions of the mucous membranes of the air-passages were also produced by it. He believed in the line of treatment advocated by Dr. Mann.

Dr. W. S. Tremaine had suffered from the disease, and had tried various sorts of treatment with varying degrees of success. He believed that, on the whole, the avoidance of the starches and sugars would give the best results. Mastication he considered of the greatest importance. This was apt to be neglected, and it was necessary to instruct the patient particularly on this point.

Dr. Wetmore had also suffered from the disease, and added his testimony to that of the others concerning its symptoms and treatment. In his case one of the earliest symptoms was a sore throat. He believed there was reason in both methods of treatment, and that the cases should be carefully classified before the treatment was decided upon. A peculiarity of some cases was in the urine remaining normal, not showing a deposit, as was observed in the majority of cases.

Dr. Tremaine confirmed this observation about the urine. He said its acidity was not increased, although the patient presented many of the symptoms due to the lithæmic condition.

Dr. Putnam said he always prohibited the sugars and alcoholic liquors, as well as all fried meats, pork, bacon, etc. He believed that the difference in the results was due to the difference in the cases. The quantity of food was as important as its quality. Too large an amount favored the production of lithæmia, from the inability of the system to assimilate it. The tendency of many cases of gonorrhœa to become gleet was due to the lithæmic condition, and relief was obtained by the alkaline treatment.

BROOKLYN PATHOLOGICAL SOCIETY.

Meeting of January 22, 1885.

The President, Dr. B. F. Westbrook, in the Chair;
Dr. A. H. P. Leuf, Secretary.

Photography applied to Gynæcology.—Dr. John Merritt read a paper with this title. [See page 276.]

Foreign Body in the Rectum.—Dr. Charles N. Dixon Jones read notes of the case of a man, sixty-three years old, who had consulted him on the 10th of the month, stating that for the preceding six months he had had a good deal of trouble with his bladder. He complained of pain and frequent micturition, the pain being increased on passing urine, which he was obliged to do as often as every two hours. For several days he had suffered with severe pain in the rectum, increased on defecation. Otherwise, he was in good health. He stated that he thought he had piles. On inspection, no rectal tumor was apparent, but with the finger the sphincters of the anus were found to be firmly contracted. Above the sphincter a hard body was detected, which, on further examination, receded into the hollow of the sacrum. The rectum was large and capacious. A dressing forceps was passed along the finger into the rectum, and made to seize the object. Some difficulty was met with in disengaging it from the folds of the mucous membrane, but it was finally withdrawn without injury to the rectum. It proved to be a piece of a sheep's rib. It was serrated at both ends, and one extremity terminated in a sharp point. It was an inch and an eighth long, five eighths of an inch wide, and a quarter of an inch thick. It had probably been swallowed with the man's food, and passed through the whole length of the alimentary canal.

Strangulated Femoral Hernia.—Dr. Hans Mohr read the history of a case in which, while he was senior house surgeon to the German Hospital in New York, he had been allowed to operate by the surgeon on duty, Dr. Lange, to whom he was now indebted for permission to publish the case. The patient was a woman, fifty-eight years old, who was admitted into the hospital September 12, 1884. Two days before, she had noticed the incarceration of a right femoral hernia with which she had suffered for several years, but which had always before been reducible, and had been retained with a truss. Her symptoms, which were not very intense, were tympanites, abdominal tenderness, nausea, and occasional vomiting, and her bowels had not moved for two days. The hernial swelling was as large as a large walnut, elastic and nodular to the feel, with a tympanitic percussion sound. Besides the hernia, the patient had a large aneurysm of the arch of the aorta, which formed a pulsating swelling to the left of the sternum, at the level of the second rib. The administration of chloroform was therefore conducted with the greatest care, and, under anæsthesia thus induced, reduction was attempted without success. Kelotomy was then performed under the usual antiseptic precautions. The contents of the sac proved to be a loop of small intestine, of a bluish, hyperæmic color, with a small part of the omentum attached. The ring was very tight, and a number of shallow incisions were required before reduction could be effected, which was done without opening the sac. The omental protrusion was stitched to the edges of the internal abdominal ring in such a manner as to occlude it. Catgut stitches were passed through the skin and the facial tissues. No drainage-tube was used, as there had been scarcely any bleeding, and the wound had been very carefully disinfected and its edges coaptated perfectly. It was dressed with sublimated gauze, with slight pressure, to bring the surfaces into close contact. Primary union took place, without fever, and was complete on the tenth day, when the dressing was changed for the first time. The bowels were first moved on the fourteenth day, by the use of cod-liver oil, and on the 12th of October the patient was dismissed.

The event showed the marked inoffensiveness of kelotomy in an uncomplicated case, and the speaker would like to say that among the bad complications were to be reckoned delay in resorting to the operation and long-protracted trials at reduction. Of course we must be thorough in the antiseptic proceedings, a requirement that not only made surgical procedures more efficient, but loaded us with additional responsibility. In the language of Volkmann, the surgeon was nowadays like a manufacturer, from whom we had the right to expect good work.

A Demonstration of Koch's Comma Bacillus.—Dr. Arnold Stub read a paper with this title. [See page 574.] Dr. Stub was assisted in the demonstration by Dr. William H. Bates.

Dr. R. G. Eccles called attention to an offer made not long before by Dr. Klein, of England, to eat any preparation of cholera bacilli that might be made for him. This he could do with impunity under certain circumstances. Everybody knew that the stomach normally contained an acid fluid. The speaker had hoped that Dr. Stub would allude to Koch's experiments, and he regretted that it had not been done. That investigator had noticed the rise and fall of the number of bacilli found in the dejections to be coincident with the severity or mildness of the case. Most cases of cholera appeared at the beginning of the week, on Sunday or Monday, days on which the stomach suffered most, having its juice most diminished in acidity, in consequence of the strain due to overfeeding. A healthy stomach, containing a secretion of decided acidity, formed the best safeguard against cholera. The mere shape of the microbe was not a safe guide to its certain recognition, any more than the shape of a pill would tell the nature of its ingredients. Practically, there was no morphological distinction between the bacillus of anthrax and the *Bacillus subtilis* of hay infusion, but one of them was harmless and the other extremely virulent.

Dr. Stub would acknowledge that he could hardly distinguish the two, but still it was not impossible; of course the difference could be made out positively only by the color reactions.

Dr. Eccles remarked that microbes changed their form, and might appear to belong to one class at one time and to another at another time.

Dr. Stub admitted that this was true in the sense that a calf was a calf at first, but might afterward develop into a cow; but it was not true in the sense that a mouse would become a cat or a cat a mouse.

Dr. Eccles desired to be understood as Dr. Stub had illustrated in his parallel.

Dr. Stub had not seen in a medical publication any such statement from Dr. Klein as that he would swallow comma bacilli if they were prepared for him; he had only seen it in a newspaper, and consequently he had taken no notice of it in discussing the question of comma bacilli. At a recent meeting of the board of health in Berlin it had been stated that certain persons had offered themselves to be experimented upon with cholera bacilli; but, after the board had discussed the question, it had been decided to decline such offers as inadmissible so long as the lower animals were to be had for the purpose of experiment.

Immunity in Disease.—Dr. Eccles read a paper with this title. [See page 571.]

Dr. I. A. Platt did not fully appreciate the differences between Salmon's theory and those of the other investigators, but the idea that vaccinating a small-pox patient increased the danger was new to him.

Dr. Eccles said it had been demonstrated in thousands of cases.

Dr. Platt did not think the two poisons were alike, and therefore he could not see how the patient would get an additional supply of the poison.

Dr. P. H. Kretzschmar said that he was one of the "criminals" who vaccinated at any time, to prevent or to mitigate small pox. He, too, had experimented. He would not consider the dispensary incident mentioned in the paper. He did not wish it understood that the idea advanced in the paper was an expression of the society's views, for he at least was opposed to it.

Dr. E. A. Lewis spoke of a case that had come under the observation of Dr. John G. Johnson, who, having seen a butcher's boy enter a house where there was small-pox, advised his immediate vaccination, which was done. A few days later the boy was attacked with small-pox of a well-marked black, confluent type, but was well at the end of ten days spent in the Flatbush Small-pox Hospital. There were many cases on record of concomitant variola and vaccinia.

Dr. McManus alluded to text-books which advised vaccination to mitigate small-pox.

Dr. A. Ross Matheson had seen a good deal of small-pox, including cases like the one mentioned by Dr. Lewis, and it had seemed to him that vaccination modified the graver disease.

Dr. Frank Little spoke of a case of varioloid in which he had vaccinated the patient on the third or fourth day, and the patient was in bed only one day. He had seen many such cases. He thought it well to vaccinate with a hypodermic syringe.

Dr. Risch suggested that perhaps the reader of the paper had meant attenuated small-pox virus instead of vaccine virus. His theory of acquired immunity was that the cells of the tissues became inured to the special irritation set up by the microorganisms, and so got to be proof against their further action.

Dr. Eccles said that three different theories had been advanced by three different men—Pasteur supposed that the invasion of the body by microbes resulted in the abstraction from the body of something that rendered the individual susceptible to the special disease engendered by the invading organisms; Klebs held the contrary view, and believed that a protective element was added to the body by these micro-organisms; Salmon believed neither of these views, but supposed that in time the cells became accustomed to the poison of the bacilli if the patient could survive its first depressing or toxic influence. He referred to Law's experiments, from which it appeared that after double inoculation with variolous and vaccinal virus an animal was always affected more than when either virus was used alone. The cases cited this evening had not been fair offsets to those that he had spoken of, because of their indefiniteness.

Dr. Lewis dissented from the view that the variolous and the vaccinal virus were the same.

Dr. Eccles replied that the history of vaccinia showed that it was only small-pox modified.

Dr. Matheson alluded to an army experience of his own, going to show the protective value of vaccination.

Dr. John Merritt and Dr. Beach recalled experiences of like purport.

Dr. W. M. Hutchinson said that a few years ago he had vaccinated a large number of colored people while small-pox was in their neighborhood; he vaccinated all of them alike, whether they showed signs of small-pox or not. He thought that those who had been previously vaccinated had done better than the others.

Dr. D. C. Lewis recalled a number of instances showing the varying degree of protection conferred by vaccination in different persons.

After several other speakers had borne testimony to the prophylactic efficacy of vaccination, Dr. Eccles said that he regretted to have been misunderstood. The protective value of vaccination had long since been established, and no one could successfully deny it. He only objected to subjecting a person to the action of *both* poisons at the *same time*, as it had been abundantly shown, in the case of the lower animals, that the practice increased the danger.

The President congratulated Dr. Eccles on the spirit with which he had defended his position in the face of so much opposition.

Miscellany.

The American Climatological Association will hold its second annual meeting in New York on Wednesday and Thursday, the 27th and 28th inst. The following papers are expected to be read: Address by the President, Dr. A. L. Loomis, of New York; "The Climate of Mexico," by Dr. H. D. Didama, of Syracuse, N. Y.; "Antiseptic Inhalations," by Dr. Beverley Robinson, of New York; "Catarrhal Affections of the Nasal Cavities as a Cause of Pulmonary Phthisis," by Dr. W. C. Jarvis, of New York; "The Home Treatment of Consumption," by Dr. F. C. Shattuck, of Boston; "A Further Consideration of Pneumatic Differentiation, with a Demonstration of the Pneumatic Cabinet," by Dr. H. F. Williams, of Brooklyn; "A Rule for the Even Division of Climate, based upon the Average of the Combined Atmospheric Humidities in the United States," by Dr. Charles Denison, of Denver, Col.; "The Elements of Climate, and their Relations to Pulmonary Consumption," by Dr. J. H. Tyndale, of New York; "The Geographical Distribution of Phthisis in Michigan, with a Sketch of the Topography," by Dr. E. L. Shurley, of Detroit; "The Treatment of Laryngeal Tuberculosis," by Dr. E. F. Ingals, of Chicago; "The Problem of Acclimatization," by Dr. J. H. Platt, of Brooklyn; "Tampa Bay as a Health Resort," by Dr. J. C. Wilson, of Philadelphia; "The Results of the Home Treatment of Consumption contrasted with those of Changed Residence and Climate," by Dr. E. D. Hudson, Jr., of New York; "Hay Fever and Allied Affections," by Dr. F. H. Bosworth, of New York; and "The History of the Stethoscope, with the Presentation of a Modification of the Cammann Stethoscope," by Dr. D. M. Cammann, of New York. On Thursday evening the New York members will give a reception at the University Club Theatre.

An Inventor Protected.—"It gives us much satisfaction," says the "Medical and Surgical Reporter," of Philadelphia, "to note that in the case of Dr. Carl L. Jensen against the firm of Keasbey & Mattison, of this city, for their alleged infringement of his patented methods of manufacturing crystallized pepsin, the Circuit Court of the United States rendered a decision protecting Dr. Jensen in his rights, and putting a stop to the manufacture or sale of his product by the firm named. Not only is this law, but we are convinced that it is justice as well. A scientific man, who, through later years, has developed a process for the production of a chemical, and then gives the process publicity through the means provided in the patent laws, should certainly reap the returns of his toil and knowledge for the limited time provided by the laws. It argues a low morality in the man or firm who would try to despoil him of this legitimate fruit of his labors and knowledge.

"The Court said: 'That the plaintiff's patented product, "peptone pepsin," is of great utility and patentable, is undoubted. The infringement is conclusively proved. The defense, that, for more than two years prior to the patentee's application, this article had been exposed to sale, and second, that it had been described in certain publications, is not sustained by proof. No such article is shown to have been on sale, and no such process as employed by the plaintiff, or article manufactured by him, is shown to have been thus described.

"'Pepsin had been manufactured and sold for many years, but no "peptone pepsin," such as this patent describes. The publications relied upon show nothing more than suggestions and speculations of scientific writers, who had never tested the practicability of their suggestions, or demonstrated the truth or value of their speculations.'"

The Hypodermic Injection of Oil.—In a paper read before the Section in Practical Medicine, at the recent meeting of the American Medical Association, Dr. John V. Shoemaker, of Philadelphia, said that experimental and clinical observations had taught us that oils that could not be swallowed, or were rejected by the stomach, could be absorbed by inunction and subcutaneous injection, and numerous instances of the absorption and assimilation of oil and fat by the skin had also been reported, and their value in certain conditions, employed in this way, been fully recognized; but the more rapid and effective use of these agents, subcutaneously, while known, had had little or no practical application. Menzel and Perco first demonstrated the subcutaneous absorption of fat by injecting an ounce of it in a fluid state under the skin of a dog; in the course of forty-eight hours it disappeared, without leaving any local effect. The first practical application of this discovery was probably made by Krueg on an insane patient who refused to eat. Subcutaneous injections of olive-oil, twice daily, were then administered, affording sufficient nourishment to keep the patient in good bodily vigor. At the end of a month he was induced to take his food in the natural way, and the injections were discontinued.

Shortly after this announcement of the practical effects in Krueg's case, a most important result from hypodermic alimentation in a case of gastric ulcer was reported by Dr. James T. Whittaker, of Cincinnati. According to Dr. Whittaker's report, after other medication had been exhausted, the patient was given subcutaneous injections of drachm doses of milk, alternated with beef extract, every two hours for three days; the temperature declined, the pulse became stronger, and the pains and delirium disappeared. The milk and beef extract not being well borne by the skin, cod-liver oil was substituted for them, two drachms being given every two hours for two days, and one day as much as eight ounces was thus introduced. Two abscesses formed from the milk, but not any ill effects followed from the oil; not only was it well borne, but its introduction was free from pain.

The inability of some of Dr. Shoemaker's patients to bear medicine by the stomach had induced him, a few years ago, to test thoroughly the subcutaneous absorption of oil, and the effects which had followed its use in a number of diseases had been highly gratifying. The cases referred to (Dr. Shoemaker then spoke of a number of patients treated by this method) were but a few of the many that he had successfully treated by oil, hypodermically administered, alone or in conjunction with other suitable means. The laxative action of castor-oil, alluded to in the cases cited, had again and again been verified on many patients affected with constipation. It might also be advisable, in cases of apoplexy, to test the effect of a more active purgative oil by placing it beneath the skin in the form, for instance, of the cathartic principle of croton-oil. Not only had the rapid and satisfactory purgative result of oil used hypodermically been thus demonstrated, but its nutritive action had been shown to be valuable in debility, dyspepsia, scrofula, tuberculosis, and certain diseases of the skin and nervous system. It was the quickest and best method of introducing oil into the system. It was an invaluable means of combating disease, particularly in the class of cases enumerated, where more nutrition was required, and also for those patients who were either unable to swallow oil or could not absorb and assimilate it by the alimentary canal. Oil could be used subcutaneously alone, or combined with other suitable agents that could be easily dissolved in it. It was a valuable menstruum for suspending other drugs for hypodermic use. It could be given in connection with a suitable diet, and even with other medication by the mouth, or used alone for alimentation. Oil deposited in this way in the tissues was absorbed, and was, no doubt, assimilated, and would alone keep up the nutrition of the body. It would at all times arrest or assist in mitigating scrofula, and would benefit tuberculous patients. It was especially useful in diseases of the alimentary canal, as well as in all affections depending upon deficient nutrition. It would very often overcome an impoverished state of the blood, and give tone and vigor to the system. For a purgative action, one or two injections of a drachm or two of castor-oil usually sufficed, but for a nutritive effect the same quantity of one of the bland nourishing oils—e. g., cod-liver oil or olive-oil—should be administered two or three times daily. In the event of alimentation depending solely upon the injections, they should be given about every two hours.

For the purpose of giving oil hypodermically a large syringe, provided with a needle of good caliber, should be used, and the instrument should have a capacity of from two to eight drachms. The injections could be made in almost any part of the body well provided with subcutaneous cellular tissue, into which the oil should always be thoroughly deposited. The points usually selected for the injections were the superior and inferior scapular and the sacral regions, on account of the subcutaneous cellular tissue being especially abundant there. Injections could also be made into the arms, the chest in front, laterally, and behind, the buttocks, and the legs. There was more or less irritation at the point of puncture of the skin, about the same as from the use of almost any other hypodermic injection. Sometimes there were also some attending smarting and burning, followed always with redness and swelling, or the formation of a nodular elevation, which usually disappeared in from twelve to forty-eight hours. No induration or inflammation followed the injections, provided the usual precautions were observed in using the hypodermic syringe properly, and the tissues of the person receiving it were in the normal condition. Oil had been so injected by him in very many cases, occasionally as much as half an ounce being used at a time, without setting up any inflammation of the skin, or producing any unfavorable results. The results so far realized demonstrated that by the hypodermic injection of oil certain conditions and diseases could be controlled, relieved, or cured. It was an invaluable method, on which full dependence could be placed, especially when the alimentary canal could no longer absorb and assimilate medicine, particularly oil.

Cocaine in Orthopædic Surgery.—In the course of the discussion following the reading of a paper, by Dr. E. H. Bradford, of Boston, on Club-foot, before the New York Orthopædic Society at its April meeting, Dr. Charles F. Stillman reported a case of talipes which had been operated upon while the foot was anæsthetized with cocaine; and he stated that this was the first case of club-foot on record in which an operation had been attempted while the foot was rendered insensible by the employment of that agent. The case was that of a young lady, twenty-five years of age, the daughter of a physician, and the deformity was congenital. It had been operated upon a number of times during early life, but had relapsed, and, when brought to him, exhibited the severest grade of talipes equino-varus. The case had been under treatment mechanically for more than a year, and, although the foot had been brought into the median line, and could be retained there without effort, beyond this reduction was impossible without operative procedure, owing to the fact that the foot had been habitually walked upon during the many years of the existence of the deformity.

Dr. Stillman referred to the fact that, although the honor of the discovery of cocaine as a local anæsthetic belonged to Germany, yet to this country and to New York city belonged the credit of demonstrating that, if the drug was injected along the course of a nerve, the parts to which that nerve was distributed became locally and perfectly anæsthetized. To the researches of Dr. Halsted and Dr. Hall, of the Roosevelt Hospital (see "N. Y. Med. Jour.," Dec. 6, 1884, p. 643), he stated that the credit was due for the establishment of this great and valuable advance. In the case of talipes reported, Dr. Halsted injected some of the solution into the sole of the patient's foot, and in the course of ten or fifteen minutes the foot became so entirely anæsthetized that incision of the plantar ligament and plantar fascia was performed by Dr. Halsted, and *brisement forcé* afterward performed by Dr. Stillman, without the patient feeling either pain or discomfort. The patient said it felt as if the foot belonged to another person, so complete was the anæsthesia. The foot was then placed in plaster of Paris, which securely held it in its new and improved position, and there were no bad results, inflammatory or other, to report, although the operation had been done about a month previous to the time of the meeting of the society.

He then proceeded to discuss the future of cocaine in its relation to orthopædic cases. He contended that it would render operative procedures free from pain without the necessity for general anæsthesia, and that it would assist in shortening the time of mechanical treatment in severe cases, by enabling a slight and painless *brisement forcé* to be performed without recourse to the knife in many cases; also that, when the use of the knife was advisable, it would simplify the conditions which rendered its employment objectionable.

The Remedy against Unreliable Drugs.—Under this caption, our sprightly contemporary, the "Medical Age," of Detroit, says:

"The fact that the market is stocked with drugs which do not conform to the standard of purity and strength established by the U. S. Pharmacopœia requires no argument for its establishment. There is no practitioner who has not been disappointed in his expectation of results from medicines administered, and while, doubtless, this disappointment is occasionally due to an error of diagnosis, it is, unquestionably, most frequently traceable to a defect in the medicinal preparation. The physician is absolutely at the mercy of the pharmacist in this matter, and when it is remembered that the latter is subject to no control and that the facilities for detecting any delinquency of which he may be guilty are not generally possessed by the members of the medical profession, it is not a reflection on human nature to believe that the stand, ard of purity and strength in drugs is not always conformed to.

"Various remedies against this evil to which the practitioner and his patrons are exposed have from time to time been suggested. That of governmental supervision of the pharmacist was referred to in our last, and its impracticability hinted at. Puss in the fable had but one trick to keep clear of the dogs, while the fox had a hundred. Puss, however, from her position in the tree, saw enough to convince her that reynard's claim was 'naught but fool's boast.' There is only one effectual remedy in the hands of the profession against dishonesty in pharmacy; all others are useless. That remedy is the proscription of manufacturers whom experience in the use of their drugs has demonstrated to be unreliable. This opens the question of the propriety of a physician's specifying on his prescription the name of the manufacturer whose preparation he wishes to have dispensed. Singularly enough, this still remains a disputed question. So long as no distinction is made by the prescriber, so long will the retail pharmacist be tempted to supply his stock from the products of such houses as will furnish them at prices affording the largest margin of profit. This is natural and quite legitimate from a commercial standpoint. Now, it is a self-evident fact that good goods can not compete in the matter of prices with those of inferior quality. The very natural consequence of these facts is that the shelves of the retailer, from which prescriptions are filled, are apt to contain, and do contain, much cheap and, therefore, inferior material. Unless the physician take pains to specify the brand which his experience has taught him is reliable, his patient runs the risk of having administered to him the cheaper, and presumably inferior, drugs, and all to the detriment of his interests, and at the expense of his physician's reputation.

"At the last meeting of the American Pharmaceutical Association this subject was presented in a paper, by Professor Wall, in such a manner that we can not do better than to quote from it: 'Pharmacy is followed by able and by incompetent men; and medicine by honest, by indifferent, and by dishonest men. The same moral distinctions apply to manufacturing pharmacists. If every druggist and every manufacturer were honest, skilled and trustworthy, no possible excuse could be urged by physicians for specifying brands; but under existing conditions it is frequently his sole protection from imposition by a knavish pharmacist or a tricky manufacturer. The right to express his preference as to the maker of drugs is identical in character to the right to indicate his preference for a particular pharmacist by the use of the drug-store blank. The physician has an unquestioned right to insist that only the best drugs, most faithfully prepared, shall be used in his prescriptions, and any method calculated to insure this result it is not only his privilege, but his duty to adopt. It is to be regretted that this policy should entail inconvenience, and often considerable expense and loss upon pharmacists, but until all demonstrate their unquestioned worthiness of confidence, until the passion for profit wholly dissolves before a sacred ambition for absolute purity and fidelity in all pertaining to pharmaceutical practice, checks upon the discretion of druggists will be both natural and necessary, notwithstanding that as a class their professional and personal character will bear favorable comparison with that of any other division of human labor. In those frequent cases when the specification in question is wholly unnecessary, by reason of the confidence which should exist between an intelligent physician and a competent pharmacist, it would seem that the latter's right to protest is co-equal with that of the former to specify, and, if offered with due courtesy, should be allowed to prevail.' "

The Health of Michigan.—From the reports to the State board of health for the month of April, for a summary of which we are indebted to the secretary, Dr. Henry B. Baker, of Lansing, it appears that, as compared with the preceding month, intermittent fever increased, and pneumonia, influenza, and quinsy decreased in prevalence. Compared with the average for the same month in the seven years 1879 to 1885, measles, intermittent fever, remittent fever, pneumonia, diphtheria, and scarlet fever were less prevalent. Diphtheria was reported from thirty places, scarlet fever from twenty-seven, measles from seventeen, and small-pox from three.

The Ohio State Medical Society will hold its fortieth annual meeting at Dayton on Wednesday, Thursday, and Friday, June 3d, 4th, and 5th. The officers are Dr. John C. Reeve, of Dayton, president; Dr. B. W. Davis, of Marion, Dr. D. J. Merriman, of Painesville, and Dr. J. F. Baldwin, of Columbus, vice-presidents; Dr. G. A. Collamore, of Toledo, secretary; Dr. E. C. Brush, of Zanesville, assistant secretary; and Dr. T. W. Jones, of Columbus, treasurer and librarian. The following are among the papers that are expected to be read: "Pelvic Hæmatocele," by Dr. C. A. L. Reed, of Hamilton; "Uterine Hæmorrhage and its Treatment," by Dr. J. W. Hoff, of Pomeroy; "A Rare Complication after Ovariotomy," by Dr. C. D. Palmer, of Cincinnati; "Some of the Complications of Strangulated Hernia," by Dr. R. Harvey Reed, of Mansfield; "Empyema," by Dr. D. Millikin, of Hamilton; "Vesical Explorations," by Dr. P. S. Conner, of Cincinnati; "Cases connected with Life Insurance Examinations, and Remarks," by Dr. I. N. Himes, of Cleveland; "The Treatment of Spinal Irritation," by Dr. G. W. Ryan, of Cincinnati; "Diseases of the Spinal Cord," by Dr. Philip Zenner, of Cincinnati; "Diseases of the Skin of Reflex Nervous Causation," by Dr. W. T. Corlett, of Cleveland; "Occipito-posterior Positions," by Dr. H. G. Landis, of Columbus; "Abdominal Sections," by Dr. R. B. Hall, of Chillicothe; and "The Voice," by Dr. C. H. von Klein, of Dayton.

The British Medical Association.—At the fifty-third annual meeting, to be held at Cardiff on the 28th, 29th, 30th, and 31st of July, two subjects of great practical importance will be discussed before the Section in Surgery. Mr. Treves, of London, will introduce the subject of "Operative Interference in Intestinal Obstruction," and Mr. Reginald Harrison, of Liverpool, will read a paper introductory to a debate on "Bladder Tumors, their Diagnosis and Treatment."

A Sanitary Convention is announced to be held at Ypsilanti, Michigan, on Tuesday and Wednesday, June 30th and July 1st, under the auspices of the State board of health, which will be represented by a committee consisting of Dr. J. H. Kellogg, of Battle Creek, Dr. Henry B. Baker, of Lansing, and Dr. V. C. Vaughan, of Ann Arbor.

The Presbyterian Hospital.—The staff of the hospital has lately been re-organized, and is now constituted as follows: *Consulting Physicians*—Dr. William H. Draper and Dr. Edward G. Janeway. *Consulting Surgeons*—Dr. Frederick Lange and Dr. Charles McBurney. *Visiting Physicians*—Dr. Andrew H. Smith, Dr. Thomas A. McBride, and Dr. William H. Flint. *Visiting Surgeons*—Dr. Charles K. Briddon, Dr. Lewis A. Stimson, and Dr. William S. Halsted.

The University of the City of New York.—The chair of anatomy, made vacant by the death of Professor Darling, has been filled by the appointment of Dr. Lewis A. Stimson.

THERAPEUTICAL NOTES.

Euphorbia Pilulifera in Asthma.—Marcet ("Bull. gén. de thérap."; "Ctrlbl. f. d. ges. Therap.") commends the active principle of this plant in the treatment of asthma. Its action is purely antispasmodic, so that it is useless in bronchitis. The dose is one grain, best given in a watery solution. The author has never found it necessary to give more than a grain and two thirds to produce the therapeutical effect. Dujardin-Beaumetz employs the tincture, the dose of which varies from ten to twenty drops. A syrup also is recommended, each teaspoonful of which contains a grain of the drug.

Boric Acid as a Preventive of Mammary Abscess.—Ressein ("Bull. gén. de thérap."), in a thesis on the use of antiseptics during lactation, says that, if any excoriation is detected, however slight, it should be dressed at once with a solution of boric acid (1 to 30) applied on a compress, the latter being covered with rubber cloth to prevent evaporation. The breast is to be carefully supported by means of proper bandages. Boric acid is preferred to other antiseptics because of its having no odor and not being poisonous.

Sedum Acre in Diphtheria.—Duval, of Madrid ("Siglo Méd."; "Therap. Gaz."), speaks in praise of this remedy, which he has employed in a great number of cases with perfect success. He gives small doses of the decoction every hour. Violent vomiting is produced, during which the false membrane is expelled. Besides loosening the membrane, the drug is said to disinfect the affected surfaces and to prevent fresh deposits. The juice is said to act powerfully as a local astringent.

Sozyglum Jabalonum in Diabetes.—Banetrala ("Rev. de thérap."; "London Med. Record") reports favorably concerning the use of this drug in cases of glycosuria. Within forty-eight hours after its administration was begun the amount of urine was greatly diminished, and there was a complete disappearance of sugar. The rind of the fruit is said to contain the active principle.

Pangium Edulus.—Chatel ("Jour. de méd. de Paris") has written a graduation thesis on the medicinal properties of this tree, which is a native of Java. The active principles are readily extracted by simple maceration of the bark or the leaves in cold water. The drug has decided narcotic properties, and in large doses it causes nausea, headache, and even delirium. It is sometimes employed as an anthelmintic.

A Lotion for Fœtid Perspiration of the Feet.—Martin ("Bull. gén. de thérap.") recommends the following solution:

Permanganate of potassium	15 grains;
Thymol	30 "
Distilled water	30 ounces.

Inner soles made of filtering-paper, cotton, or some like material, are to be moistened with the solution, and new ones should be used every morning.

Veratrine in Muscular Tremor.—Féris ("Jour. de méd. de Paris"; "Therap. Gaz.") recommends this drug in muscular tremor, especially when due to alcoholism or disseminated sclerosis. He gives four pills daily, each containing one one hundred and twenty-eighth of a grain. A cure, he says, may be confidently expected in from a week to two weeks.

Ozonein.—Brand ("Jour. de méd. de Paris") has discovered a method of condensing ozone and preserving it in a permanent form. This has hitherto been impossible, on account of the rapid change of ozone into oxygen. Ozonein is said to be a powerful disinfectant. Evaporated in hospital wards, it is a valuable means of purifying the atmosphere. It was used with excellent results during the recent cholera epidemic at Toulon.

THE NEW YORK MEDICAL JOURNAL, MAY 30, 1885.

Original Communications.

HYPERINOSIS
THE CAUSE OF DEATH IN A CASE OF CHRONIC PARENCHYMATOUS NEPHRITIS.

By ALLARD MEMMINGER, M.D.,
PROFESSOR OF CHEMISTRY AND HYGIENE IN THE MEDICAL COLLEGE OF SOUTH CAROLINA, CHARLESTON.

The case which I shall shortly describe, of Bright's disease of the kidneys, is of interest and instructive, because of the decided tendency shown to the formation of fibrin in the blood, and the constant escape of white-blood corpuscles in the urine.

It has been repeatedly pointed out by observers that certain diseases have a special tendency to the formation of fibrin in the blood; for example, in acute articular rheumatism, pneumonia, and capillary bronchitis, this tendency is markedly noticeable; indeed, in all forms of acute inflammation where there has been a proliferation and migration of white corpuscles there is also an increase of fibrin.

According to Virchow, the white globules of the blood are multiplied whenever fibrin is morbidly increased; and, again, according to the same authority, there is a notable difference as regards the amount of fibrin produced in different parts when they are inflamed, hyperinosis being most marked in those abundantly supplied by lymphatic vessels and glands.

The nature and extent of the pathological relations of hyperinosis being not yet settled, it would be difficult for us just now to decide upon rational grounds how far this element enters into the history of all forms of Bright's disease, or else upon what grounds we should institute any special line of therapeutical treatment. What, however, does appear to us very probable is, that, as a proliferation of white-blood corpuscles is accompanied by an increase of fibrin, when these appear in the urine it is a sign of this proliferation; and, being thus apprised, we are in a position to most certainly predict an increase and deposition of fibrin in the circulatory system.

Directing our attention now to those constituents of the blood known as organic, we find that the most important of these are fibrin and albumin. Fibrin is that portion of the liquor sanguinis which solidifies when blood is withdrawn from the vessels, this process being called coagulation. Thus spontaneous coagulation, even when the proportions of fibrin and albumin are normal, takes place on the admission of atmospheric air, but only outside of the human tabernacle, since that vital principle within us called life holds in solution these two constituents; if, however, their relative proportions are changed, a silent, slow, but probably regular deposition takes place all through the circulatory apparatus, being most prominent in those parts in which the blood remains comparatively quiescent the longest, or else where some form of passive congestion has been kept up for a long time. Why this should take place we are as much at a loss to explain as the cause of the spontaneous coagulation of fibrin outside of the body. That this slow coagulation and deposition does take place in life, we are compelled to acknowledge from the fibrinous vegetations found in the heart and elsewhere after death; and that this also occurs when the albumin decreases is also forced upon us, or at least made most probable, since in all chronic cases of Bright's disease we are dealing with impoverished blood, indeed, some characterized by well-marked lukæmia—just such a condition, according to Virchow, productive of an excess of fibrin in the blood.

Having laid before you, in a somewhat hurried way, the salient point that in all cases of Bright's disease save acute tubal nephritis we are dealing with a condition bordering on leukæmia, we may add that in this we have a cause for the formation of fibrin in the system, which in turn keeps up the dropsical condition by the impediment offered the circulation, producing increased blood-pressure, and, consequently, increased albuminous exudation in the urine. I pass on to consider the case in question:

Samuel Butler, an inmate of the Charleston City Hospital, aged twenty-three years, was admitted January 17, 1885, suffering from general dropsy. From this time to the 1st of March, at which date I first saw the case, he was under the general stereotype treatment for dropsy, with occasional improvements and back-sets. A careful inquiry into the history of the case before admission into the hospital disclosed the history of marsh miasm. On examination, I found his kidneys slightly sensitive on pressure, not enough by itself to warrant the idea of acute inflammation; the heart-sounds were feeble, the systole being more so, but hardly more than usual in these anæmic patients; the lungs appeared to do their part quite well, pitch, quality, and intensity of the sounds in each being nearly normal; vesicular murmur clear enough, and, had the diaphragm been allowed free play, there would not have been the apparent difficulty experienced in breathing at times. The liver was slightly enlarged, and a little to the right and nearly under the ensiform cartilage it seemed a little sensitive on pressure. The spleen could not be felt, and the abdominal cavity was filled with fluid which was subject to many variations; at no time, however, was it in sufficient quantity to require paracentesis. His legs, arms, face, feet, and hands were each and all œdematous, but all alike subject to decided degrees of fluctuations. With the foregoing data I instituted an examination of his urine; albumin was constant, but hyaline and epithelial casts were scarce. White-blood corpuscles being found in numbers, I therefore determined the case to be one of Bright's disease in the first stage—namely, the large white kidney. With a view of increasing the urine, thereby diminishing, as I thought, the dropsy, I placed the patient on the use of an infusion of digitalis combined with acetate of potassium. The improvement from this line of treatment, as before said, was only temporary; but to so great an extent did it occur two days before his death that one of my staff remarked that he thought he would now get well. This improvement does not appear, however, in the examination of the urine on the same days, and which is given on the next page.

It is very probable this average diurnal passage of 500 c. c. had been such for some time, for on the seventh, eighth, ninth, and tenth it was as follows: 502, 400, 500, and 480. It is to be regretted also that no albumin determinations were made on these days. I think, however, we might safely conclude it was much the same.

March.	Reaction.	Specific gravity taken at 60° F.	Per cent. of albumin.	Cubic centimetres per 24 hours.	Grammes of albumin dried at 212° F. per 24 hours.
11	Acid.	1017	0·710	500	3·550
12	"	1018	0·610	480	2·928
13	"	1016	0·490	510	2·899
14	"	1015	0·530	500	2·650
15	"	1015	0·530	502	2·660
16	"	1016	0·530	510	2·703
17	"	1013	0·850	480	4·080
18	"	1012	0·570	650	3·705
19	"	1017	0·830	900	7·470
20	"	1016	1·010	400	4·040
21	Patient died.				

Before drawing your attention to the main points of this investigation, as well as the lesson to be learned from this case, I shall briefly relate a summary of the post-mortem appearances:

The lungs showed nothing of special interest; there was a slight congestion of a small portion of the left lung, and apparently of recent origin; there was no evidence of pleuritis, nor was there any fluid in the pleural sacs. In the pericardial sac there was a moderate amount of fluid, and, if this be taken as evidence of pericarditis, it must have been of very recent origin, since during life there were no symptoms pointing to the same, nor did I get any such evidence from my assistant, who saw the case a few hours before death. In the right sides of the heart there appeared vegetative deposits of buff-colored fibrin, and on the endocardial surface of the right auricle there appeared quite a considerable deposit of this sort. From the vena cava ascendens I drew a long plug of thoroughly organized, stringy, buff-colored fibrin, taking the exact mold of the vessel, and at the mouth of the pulmonary artery a plug of fibrin was found, apparently conveyed there by the blood-stream, having in the first instance been detached from the endocardial surface of the heart. This vegetative, fibrinous growth, together with a considerable blood-clot which occupied the cavities of the heart, fully accounted for the suddenness of the death. Indeed, on the morning of his death he seemed to be doing particularly well, when, after rising and walking around, he suddenly became faint, fell on his bed, and expired before medical aid could be obtained. Unfortunately, no examination was made of any other organs save the kidneys, an accident having caused the same. These organs were more or less enlarged, but neither would have weighed over seven or eight ounces; their surfaces were smooth and even, and well deserved the synonym "smooth kidney"; their color was a very distinct white, and was uniform in character; the enlargement was mainly in the cortical portions, and the cones preserved their compact appearance and general outline; the cortical portions were bloodless, and so to a certain extent did the cones themselves partake of this anæmia; a longitudinal incision brought forth a small amount of turbid serum, and, on further inspection, their surfaces appeared dotted with white or, rather, grayish specks. No microscopical examination was made, but, from the appearances just described, I am quite certain the same would have disclosed an accumulation within the uriniferous tubes of disintegrated epithelium, exuded matter, and possibly a moderate proportion of fatty granules or oil-drops.

Having now completed our review of the post-mortem appearances, I return to the chemical examination of the urine, and invite your attention thereto.

For the sake of control as well as observing the results obtained by different processes, I instituted three methods of analysis: First by the acetic-acid method, then by the nitric-acid method, and finally by the so-called magnesium-sulphate process. I have placed only the results obtained by the first method for your consideration, since a multiplicity of figures would only confuse. I may remark, however, in passing, the other methods gave somewhat lower results, and in the order in which I have placed them. I hope, however, to investigate this matter more closely shortly, and make the same the subject of another paper.

In each case the entire content of urine for the twenty-four hours was taken, a sufficiency carefully filtered, and, after the precipitation and coagulation of the albumin had been effected, the same was weighed on a tared filter, and therefrom the per cent. in weight calculated on the urine by volume.

On reviewing these figures, it becomes quite apparent the specific gravity is no criterion whatever as to the amount of albumin present; for, compare the per cent. of albumin in the urine passed on the 16th with that passed on the 20th, their specific gravities are alike, their per cents. of albumin far apart. Again, the specific gravity, being by some misunderstanding only taken in the albuminous urine, loses all significance as an indicator of solid matter, and, therefore, of drain on the system other than that caused by the loss of albumin.

It is to be regretted that no determinations of urea appear in these columns, seeing the final result of this case. This—apparent oversight—was not deemed necessary, since uric acid appeared in large amounts, and, therefore, it was reasoned there could be but little danger of uræmic poisoning; indeed, I have fallen into what might be called a lazy way of judging of possible uræmia by the amount of uric acid found; if, on qualitative examination, I find considerable amounts of uric acid, I feel pretty safe in letting alone; if, however, I get a negative result, I then proceed to estimate urea.

The watery portion, as also the number of cubic centimetres of urine per diem, is robbed of its significance from the fact that strong diuretics had been constantly used. If, on the other hand, such strong kidney stimulation was attended with no increase of flow, does it not point significantly to the thorough disorganization of the blood—yes, to the loss of balance in the arterial pulse, the ascendency of fibrin in the circulation?

A continued stimulation under these conditions could but bring increased congestion in the already swollen kidneys, and it is indeed doubtful to my mind if, under these conditions, an increase of urine would not be worse for the patient. Compare, for example, the per cent. of albumin passed on the 19th, when, for some unaccountable reason, the urine ran up to 900 c. c. Had this been constant, would not the drain have been much greater, and the end precipitated?

It therefore teaches us, I think, the lesson of caution in the use of these agents, which, as long as the blood remains near normal, may do good, but which, so assuredly as it contains an excess of fibrin, will be injurious.

Indeed, we go so far as to say that when white-blood corpuscles appear in the urine, barring for the present cases of acute tubal nephritis, strong diuretics are contra-indicated. If such action be deemed necessary, the free use of distilled or, in the absence of the same, of rain water will be sufficient to create a flow and keep open the tubes. The desirability of using a compound highly charged with oxygen, and which at the same time readily parts with its oxygen, has suggested itself to my mind, but as yet I have had no experience in such use; I trust, however, at some future time to test the effects of hydrogen dioxide.

When the use of diuretics is attended with good results, it is, we are inclined to think, from other causes, most probably in cases of acute tubal nephritis, and not in chronic cases, attended with the escape of white-blood corpuscles in the urine. If dropsy is to be combated, we must rely upon diaphoresis and catharsis, and not unnecessarily expose the kidneys to increased congestion and renewed inflammation.

I shall not offer in these cases any line of treatment other than that which has for its aim the renewal and support of the blood-system. Were there a preparation which could increase the albumin in the blood, of course this would meet the requirements; but, with the present state of our knowledge, we must be content with the expectant form of treatment, and, by giving tone and vigor to the system, allow Nature to rebuild her structures, renew her edifice, and make whole again.

AN ANALYSIS OF THE
FIRST ONE THOUSAND DEATHS
IN THE AMERICAN LEGION OF HONOR.*

By J. FOSTER BUSH, M. D. (Harv.),

BOSTON.

It is a well-recognized fact that valuable insurance statistics are obtained by the classification and compilation of the returns from various sources.

As a contribution to this work I have made an analysis of the first thousand deaths which occurred in a beneficiary organization of which I am a member.

At the time the one thousandth death occurred the order had, in round numbers, 53,000 members, of whom 5,327 were females.

Of the whole number of deaths, 128, or $12\frac{3}{10}$ per cent., were of females.

The ratio of the death-rate was *one* to every fifty-three members, which is in excess of what the death-rate should be.

In our male risks the death-rate was 1·825 per cent., while that of the females was 2·402. Comparing these figures with those given in the "Actuaries' Systems and Tables of Life Insurance," which are 1·028 per cent. for males, and 1·1581 per cent. for females, it will be seen that both our death-rates are in excess, and that especially the death-rate of female risks is more than double the standard rate.

It may be said that the number is too small from which to draw correct conclusions, but they furnish data which, in connection with like reports from kindred organizations, will prove valuable.

The difficulty in making an exact classification (and the chief source of error) lies in the fact that often the death is attributed to two or more diseases, or to diseases of different organs, as, for example, "Typhoid fever and Bright's disease," "Dropsy due to disease of the heart, kidney, and liver," and many other returns of a like nature. In cases of doubt, I have in many instances examined the proofs of death, getting thereby as near the true cause as possible.

The arrangement by tables gives a better idea of the result than any other way.

The following table gives the per cent. of deaths from each class of disease.

Of constitutional diseases the deaths numbered:

From cancer	33, or $3\frac{3}{10}$	per cent.
" phthisis	99, or $9\frac{9}{10}$	" "
" other constitutional causes	23, or $2\frac{3}{10}$	" "

Deaths from the zymotic diseases numbered	182, or $18\frac{2}{10}$	per cent.
" " diseases of the urinary system	48, or $4\frac{8}{10}$	" "
" " " " nervous system	143, or $14\frac{3}{10}$	" "
" " " " circulatory system	74, or $7\frac{4}{10}$	" "
" " " " respiratory system	167, or $16\frac{7}{10}$	" "
" " " " digestive organs	121, or $12\frac{1}{10}$	" "
Unclassified	110, or 11	" "

Concerning the chronic diseases I will go somewhat more into detail. There were 153 deaths from chronic constitutional diseases, $15\frac{3}{10}$ per cent. of the sum total.

Of these, those from cancer may be classed as follows:

Cancer of the stomach	9
" " uterus	5
" " liver	4
" " bowels	2
One each of the stomach and liver, throat, pancreas, and abdomen	4
Location not specified	9

A classification in groups, by ages, gives us:

	Under 45 years of age.	Between 45 and 55.	Over 55.
Number of cases	14	11	8
Shortest time in order	5 mos.	1 mo.	4 mos.
Longest time in order	3 yrs.	3 yrs. 4 mos.	3 yrs. 1 mo.
Average	1 yr. $8\frac{2}{5}$ mos.	1 yr. $3\frac{6}{7}$ mos.	1 yr. $8\frac{8}{13}$ mos.

As a comparison of the weight in the cases of death from cancer and from phthisis with the normal average is introduced, as pointing to the advisability of the acceptance of the risk, I have inserted the following table of standard weight, giving also the minimum and maximum limit, so that the contrast may be easily made:

Height.	Minimum limit.	Normal average.	Maximum limit.	Height.	Minimum limit.	Normal average.	Maximum limit.
Ft. in.	Lbs.	Lbs.	Lbs.	Ft. in.	Lbs.	Lbs.	Lbs.
5 0	100	120	140	5 8	118	156	194
5 1	102	124	146	5 9	121	162	203
5 2	104	128	152	5 10	124	168	212
5 3	106	132	158	5 11	127	174	221
5 4	108	136	164	6 0	130	180	230
5 5	110	140	170	6 1	133	186	239
5 6	112	144	176	6 2	136	192	248
5 7	115	150	185				

To show the relative height to the weight, with the increase or diminution of weight from the normal average, the following table of the thirty-three deaths from cancer is given:

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* Read before the Boston Society for Medical Observation, December 1, 1884.

No. of death.	Height.	Weight.	WITHIN THE LIMIT ALLOWED, BUT MORE OR LESS THAN THE AVERAGE.	
			More.	Less.
	Ft. in.	Lbs.	Lbs.	Lbs.
61	5 7	130		20
85	5 4	133		3
123	5 6	140		4
137	5 10	138		19
183	5 3	140	8	
197	5 6	130		14
202	5 1	125	1	
326	5 6	188	44	
353	5 7½	150		3
393	5 2	110		14
405	5 2	137½	9½	
458	5 1	100		24 out of limit
472	5 8½	135½		4½
498	5 8	155		1
510	5 11	163		11
513	5 5½	138		4
518	5 4	112		22
555	5 5	135		5
570	5 11	165		9
601	5 8	148		8
607	5 7½	160	7	
631	5 8	156	correct weight	
655	5 1	120		4
729	5 6	155	11	
741	5 4	130		6
784	5 11½	167		10
818	5 8	156	correct weight	
825	5 5	136		4
839	5 10	195	27	
850	5 6½	187	40	Out of limit.
871	5 7	160	10	
900	5 9	148		14
947	5 7	156	6	

An analytic study of these weights in this list of persons dying from cancer gives us ten cases where the weight is in excess of the normal standard, and twenty-one in which the weight is lower than we had a right to expect, while two had the correct relative weight to the height.

In the list of phthisis I have included only those credited to that disease. Undoubtedly, however, some deaths attributed to "pulmonary hæmorrhage," "chronic pneumonia," and "ulceration of the larynx," should have been included under this head. Dividing the whole number into groups, we have:

	Under 45 years of age.	Between 45 and 55.	Over 55.
Number of cases	75	17	9
Death occurred after admission, in the shortest time, in.	3 mos.	10 mos.	1 yr.
In the longest time	3 yrs. 4 mos.	5 yrs.	3 yrs. 2 mos.
The average time was	1 yr. 7⅝ mos.	2 yrs. $\frac{15}{22}$ mo.	2 yrs. ⅐ mo.

The age usually given as the minimum at which those having a phthisical family history can be accepted for insurance as a good risk is thirty-five years, the physical examination showing that no disease exists. But more than three fourths of those dying of phthisis in this series were under forty-five years of age. It would therefore seem as if the time set by the companies was at too young an age to be safe, and that at forty-five years the risk of death from that cause was better than at thirty-five, and that the former number should be considered the limit rather than the latter. This age, however, is a little above the average age of those admitted to the order, so a slight allowance should be made in this estimate.

Of the other constitutional diseases, twenty-three in number:

The death after admission in the shortest case was 4 mos.
" " " " " " longest case was 2 yrs. 9 mos.
" average for the 23 cases was.............. 17 yrs. 8$\frac{6}{7}$ mos.

Tabulating the ninety-nine cases of deaths from phthisis in the same manner as those from cancer, we have

No. of death.	Height.	Weight.	WITHIN THE LIMIT, BUT MORE OR LESS THAN THE NORMAL AVERAGE.	
			More.	Less.
	Ft. in.	Lbs.	Lbs.	Lbs.
13	5 0	115		5
32	4 11	105		11
38	5 11	152		22
41	5 8½	147		9
95	5 8½	160		1
97	5 9	160		2
107	5 10	135		33
155	5 6½	115		32
161	6 4	145		59
166	5 8	160	4	
193	6 0½	155		28
206	6 0	165		15
216	6 1	155		31
224	5 5	164	24	
246	5 10	200	32	
248	5 10	155		13
250	5 6	135		9
253	5 8	140		16
256	5 10	155		13
259	5 2	130	2	
268	5 5	160	20	
328	5 8	170	14	
331	5 10½	140		31
334	5 9	137		25
339	5 10	145		23
340	5 7	134		16
349	5 5	125		15
352	5 9	150		12
363	5 10	155		13
371	5 10	138		30
373	5 11	145		29
433	5 3	127		5
437	6 1	165		21
448	5 4½	125		12
456	5 8	146		10
465	5 4	115		19
478	5 0	112		8
493	5 11	170		4
496	5 7	145		5
503	5 0½	95	below the limit	27½
523	5 9	160		2
534	5 6	125		19
536	5 4½	122		16
540	6 0¼	150		33
546	5 6	145	1	
552	5 10½	174	3	
582	5 10	142		26
592	5 11	145		29
595	5 9½	150		15
596	5 6	172	28	
599	5 10	135		33
600	5 4	130		6
605	5 8	168	12	
610	5 4	135		1
611	5 8	158	2	
624	5 9	150		12
633	5 8	148		8
634	6 0	150		30
649	5 2	103		25
683	5 7	131		19
686	5 9	138		24
700	5 9	145		21
703	5 9½	135		27
707	5 10	155		19
712	5 8	140		16
717	5 4	118		18
719	6 2½	180		15
720	5 6	195	51	
721	5 8	160	4	
724	5 8	130		14

No. of death.	Height.	Weight.	WITHIN THE LIMIT, BUT MORE OR LESS THAN THE NORMAL AVERAGE.	
			More.	Less.
	Ft. in.	Lbs.	Lbs.	Lbs.
728	5 7	135		15
732	5 11	137		37
739	5 5	134		6
740	5 7	125		25
743	5 7	137		12
744	5 $6\frac{1}{2}$	130		17
752	5 10	157		11
808	5 11	146		28
815	5 4	125		11
822	5 7	135		15
829	5 5	124		16
833	5 $10\frac{1}{2}$	131		40
842	5 11	162		12
844	6 0	155		25
847	6 0	133		47
854	5 $8\frac{1}{2}$	124		35
869	5 4	135		1
874	5 4	120		16
882	5 10	175	7	
885	5 5	119		21
913	5 8	155		1
924	5 8	145		11
927	5 $7\frac{1}{2}$	150		3
936	5 $5\frac{1}{2}$	127		15
946	5 7	136		14
960	6 3	218	20	
969	5 $10\frac{1}{2}$	168		3
999	5 3	120		12
1000	5 $10\frac{1}{2}$	165		6

In comparing the height to the weight in the cases of phthisis, I find that, out of the 99 cases, 15 were over the standard weight, and that 84 were below that given as the right proportion.

Dr. Joel Seaverns, in the "Boston Med. and Surg. Journal," Oct. 23, 1884, says:

"The general directions in companies and societies are that, while the proportion is the natural one, a variation of twenty per cent. in either direction is not to be deemed a cause for rejection. I am inclined to think that, as regards the candidates of light weight, less latitude should be allowed, and that a variation of even fifteen per cent. in that direction makes the risk hazardous." Later in the same article he states that such candidates are exceptionally prone to constitutional disease.

Though I have not calculated the per cent. in the above reported cases, it will be seen that the same general tendency exists, and that the twenty per cent. average is too liberal an allowance on the minimum side.

While these tables of the relative height to the weight do not *prove* that a less weight than the standard is to be considered a bad risk, they show the *probability* of it.

Under the head of deaths from diseases of the urinary organs, the number dying of "Bright's disease" was 21.

	Under 45 years of age.	Between 45 and 55.	Over 55.
Number of cases	8	7	6
Death after admission:			
Shortest time	1 yr. 2 mos.	1 yr. 1 mo.	5 mos.
Longest time	2 yrs. 7 mos.	3 yrs. 4 mos.	3 yrs. 2 mos.
Average time	2 yrs. 6 mos.	1 yr. 7 mos.	1 yr. $11\frac{3}{5}$ mos.

Of nephritis there were nine cases.

Under 45 there were 5; between 45 and 55, 1; over 55, 3.

Death after admission:

Shortest time	6 months.
Longest time	4 years 3 months.
Average for the 9 cases	1 year.

Of deaths from uræmia there were eight.

Under 45 there were 4; between 45 and 55, 1; over 55, 3.

Death after admission:

Shortest time	1 year 4 months.
Longest time	3 years 9 months.
Average time of death after admission	2 years $2\frac{5}{6}$ months.

Diseases of the nervous system. There were 44 deaths from apoplexy.

	Under 45 years of age.	Between 45 and 55.	Over 55.
Number of cases	14	13	17
Death after admission:			
Shortest time	1 mo.	1 mo.	1 mo.
Longest time	2 yrs. 7 mos.	3 yrs. 3 mos.	3 yrs. 7 mos.
Average time	1 yr. $0\frac{1}{6}$ mo.	1 yr. $2\frac{8}{19}$ mos.	1 yr. $6\frac{16}{17}$ mos.

There were 17 deaths from paralysis.

	Under 45 years of age.	Between 45 and 55.	Over 55.
Number of cases	3	5	9
Deaths after admission:			
Shortest time	6 mos.	6 mos.	1 mo.
Longest time	3 yrs. 8 mos.	3 yrs. 1 mo.	2 yrs. 3 mos.
Average	2 yrs. 1 mo.	1 yr. $8\frac{2}{3}$ mos.	1 yr. $3\frac{5}{7}$ mos.

There were 23 deaths from heart disease.

	Under 45 years of age.	Between 45 and 55.	Over 55.
Number of cases	6	5	12
Average time of death after admission to the order	1 yr. $8\frac{2}{3}$ mos.	1 yr. $3\frac{6}{7}$ mos.	1 yr. $8\frac{8}{13}$ mos.

The rest of the deaths given under the head of the circulatory system were from:

Aneurysm	5
Valvular disease	4
Fatty degeneration of the heart	5
Hypertrophy of the heart	5
Angina pectoris	6

Dividing these into two classes—one containing those under 55 years, the other those over 55 years of age—we have the average time of death after admission as follows:

	Under 55.	Over 55.
Aneurysm	1 mo.	1 yr. 7 mos.
Valvular disease	2 yrs. 6 mos.	1 yr. 4 mos.
Fatty degeneration	1 yr. 10 mos.	1 yr. 3 mos.
Hypertrophy	1 yr. 5 mos.	1 yr. 2 mos.
Angina pectoris	....	1 yr. 2 mos.

Under the head of "unclassified" are recorded four cases of death from the puerperal condition. The number dying of disease depending upon gestation was seven, but one is classed under the head of pyæmia, one under peritonitis, and one under albuminuria.

Dr. Wilson, in his report for 1882, alluded to the subject of pregnancy and the effect it had on life, and quoted authorities to show that such cases were not bad risks. The percentage of seven one hundredths of one per cent. tends to show that he was right, though personally I regard pregnancy as a sufficient ground for rejection, the risk from intercurrent and subsequent diseases being very great.

Those classed under the head of "suicides" number 25, $2\frac{5}{10}$ per cent., though undoubtedly some deaths included under the head of "accident" and "overdose of medicines" might properly be classed as from self-destruction.

Of this number, it was not stated what means was employed in	16 cases.
Poison was used in	4 "
The pistol was used in	2 "
Hanging in	3 "

Classified according to the States:

New York	4	Wisconsin	2
California	4	Indiana	1
Ohio	3	Illinois	1
Pennsylvania	3	Missouri	1
Texas	2	North Carolina	1
Massachusetts	2	Virginia	1

Concerning the acute diseases I have nothing in particular to say. It was through the courtesy of the secretary, Mr. Adam Warnock, that the records of the office were placed at my disposal, and I have to thank him and his efficient clerks for aid in looking up the facts necessary to the preparation of this paper, which, in a tabulated form, gives the deaths by States, and those dying of each disease.

	Under 25.	Between 25 and 30.	Between 30 and 35.	Between 35 and 40.	Between 40 and 45.	Between 45 and 50.	Between 50 and 55.	Over 55.	Total.
CONSTITUTIONAL DISEASES.									
Phthisis	15	18	12	20	10	12	5	7	99
Cancer	..	1	4	2	5	4	6	11	33
Rheumatism	..	..	2	2	1	1	..	2	8
Dropsy	..	1	..	..	1	4	2	1	9
Anæmia	..	..	1	..	..	..	..	..	1
Necrosis of the sternum	..	..	1	..	..	..	..	..	1
Granular synovitis	..	..	..	1	..	..	..	..	1
Ovarian	..	..	..	..	1	..	..	..	1
Marasmus	..	..	..	..	1	..	..	..	1
Inanition	..	.	..	..	..	..	..	1	1
Total	15	20	20	25	19	21	13	22	155
ZYMOTIC DISEASES.									
Typhoid fever	9	14	6	9	6	8	3	7	62
Typho-malarial fever	2	6	3	3	5	3	2	4	28
Malarial fever	2	3	4	2	2	..	2	2	17
Pyæmia	1	1	3	3	2	1	3	..	14
Congestive fever or congestive chill	1	1	1	2	..	1	1	2	9
Erysipelas	..	..	1	1	1	..	3	3	9
Remittent fever	..	1	2	1	..	..	2	3	9
Dysentery	..	1	1	3	1	..	1	2	9
Small-pox	..	..	2	1	..	..	1	..	4
Diphtheria	1	..	1	1	..	..	..	..	3
Intermittent fever	..	..	..	1	1	..	1	..	3
Carbuncle	..	..	..	..	1	..	..	2	3
Typhus fever	..	..	1	1	1	..	..	..	3
Cholera	1	..	..	..	..	..	1	1	3
Yellow fever	..	1	1	..	..	..	..	..	2
Diarrhœa	1	..	1	..	..	..	..	..	2
Scarlet fever	1	..	..	..	..	..	..	..	1
Cholera morbus	..	..	..	..	..	..	..	1	1
Total	19	28	27	28	20	13	20	27	182
DISEASES OF THE URINARY ORGANS.									
Bright's disease	..	2	..	3	2	4	4	6	21
Nephritis	..	..	1	1	3	1	1	2	9
Uræmia	..	..	3	..	1	..	1	3	8
Cystitis	..	..	..	1	..	..	3	1	5
Hydro-nephrosis	..	..	..	..	..	1	..	..	1
Addison's disease	..	..	..	1	..	..	..	..	1
Diabetes	..	..	1	..	..	..	..	1	2
Tumor of the kidney	..	..	..	..	..	..	..	1	1
Total	..	2	5	6	6	6	9	14	48
DISEASES OF THE NERVOUS SYSTEM.									
Apoplexy	1	3	3	3	5	5	8	16	44
Paralysis	..	..	2	1	..	1	4	9	17
Congestion of the brain	4	3	4	4	2	3	1	1	22
Meningitis	..	2	2	1	1	2	3	1	12
Cerebro-spinal meningitis	2	1	1	1	..	1	..	2	8
Paresis (cerebral)	..	1	1	2	2	1	2	3	12
Disease of the brain and spinal cord	..	1	..	1	1	..	..	2	5
Inflammation of the brain	..	1	..	..	3	2	2	..	8
Compression or concussion of the brain	..	..	..	1	1	..	..	2	4
Insanity	..	1	..	..	1	..	..	1	3
Nervous exhaustion	..	..	..	..	..	..	1	1	2
Tetanus	..	..	..	1	..	..	1	..	2
Abscess of the brain	..	..	..	1	..	..	..	..	1
Myelitis	..	..	..	1	..	..	..	..	1
Convulsions	..	..	1	..	..	..	..	..	1
Embolus	..	..	..	..	..	1	..	..	1
Total	7	13	14	17	16	16	22	38	143
DISEASES OF THE CIRCULATORY SYSTEM.									
Heart disease	..	...	..	3	3	1	4	12	23
Valvular disease	..	..	1	..	1	..	1	6	9
Fatty heart	..	..	..	..	..	1	1	5	7
Angina pectoris	1	..	..	..	..	.	1	4	6
Aneurysm	..	..	..	..	1	..	..	4	5
Paralysis of the heart	..	..	1	1	..	..	1	2	5
Rheumatism of the heart	..	..	..	..	..	1	..	2	3
Pericarditis	..	..	..	..	..	1	..	..	2
Embolism	..	..	1	..	..	..	..	1	2
Dilatation of the heart	..	..	..	1	..	..	1	..	2
Hydro-pericardium	..	..	..	..	..	..	1	1	2
Syncope	..	..	..	1	..	..	..	..	1
Exophthalmic goître	..	..	1	..	..	..	..	..	1
Endocarditis	..	..	1	..	..	..	..	..	1
Hypertrophy of the heart	..	..	1	1	1	1	..	1	5
Total	1	..	6	7	6	5	11	38	74
DISEASES OF THE RESPIRATORY SYSTEM.									
Pneumonia	6	11	14	18	16	10	17	25	117
Bronchitis	..	2	..	1	..	3	3	1	10
Congestion of the lungs	..	2	1	..	..	1	3	2	9
Disease of the throat and tonsils	..	2	3	..	1	..	2	..	8
Hæmorrhage of the lungs	1	..	2	1	1	..	..	..	5
Pleuritis	..	..	..	..	1	1	1	..	3
Abscess of the lung	..	1	..	..	..	..	1	..	2
Asthma	..	..	..	..	..	..	2	..	2
Asphyxia	..	..	..	..	..	..	..	2	2
Empyema	..	1	1	..	..	..	..	..	2
Œdema of the lung	..	..	2	..	..	..	..	..	2
Inflammation of the lung	..	..	..	..	..	..	1	1	2
Pneumo-hydrothorax	..	..	..	1	.	..	..	..	1
Apnœa	1	..	..	..	..	..	..	..	1
Disease of the lung	1	..	..	..	..	..	..	..	1
Total	9	19	23	21	19	15	30	31	167
DISEASES OF THE DIGESTIVE ORGANS.									
Stomach:									
Inflammation of	..	..	1	..	1	2	1	3	8
Ulceration of	..	2	..	..	..	1	..	3	6
Hæmorrhage of	..	..	..	2	..	..	..	1	3
Congestion of	..	..	1	..	.	..	1	.	2
Stricture of	..	..	..	1	..	..	..	..	1
Liver:									
Cirrhosis	..	1	..	..	1	2	..	5	9
Jaundice	1	..	.	2	.	..	1	..	4
Atrophy of	..	..	..	..	..	..	2	1	3
Hypertrophy of	..	..	..	..	..	..	..	1	1
Hepatic colic	..	..	..	1	..	..	..	1	2
Disease of	..	..	..	..	..	1	..	..	1
Congestion of	..	..	..	..	..	1	..	..	1
Inflammation of	..	..	3	3	4	2	3	2	17

	Under 25.	Between 25 and 30.	Between 30 and 35.	Between 35 and 40.	Between 40 and 45.	Between 45 and 50.	Between 50 and 55.	Over 55.	Total.
Bowels:									
Peritonitis	5	1	5	2	1	4	2	1	21
Inflammation of	1	1	1	2	3	2	3	2	15
Congestion of	..	..	..	1	..	..	2	..	3
Hæmorrhage of	1	..	..	..	..	1	1	..	3
Ulceration of	..	..	2	..	..	2	..	..	4
Bilious colic	..	..	..	..	..	1	..	..	1
Paralysis of	..	..	1	..	..	.	..	..	1
Gastro-duodenal	1	1	..	..	..	1	..	..	3
Hernia	..	..	..	..	.	..	..	2	2
Gastro-enteritis	..	1	..	1	..	1	..	..	3
Disease of the pancreas	..	..	..	1	..	..	..	..	1
Enlargement of the spleen	..	..	1	..	..	..	..	..	1
Fæcal impaction	..	..	1	1	..	..	..	1	3
Intestinal obstruction	..	1	..	..	..	..	..	1	2
Total	9	8	16	17	10	21	16	24	121

	Under 25.	Between 25 and 30.	Between 30 and 35.	Between 35 and 40.	Between 40 and 45.	Between 45 and 50.	Between 50 and 55.	Over 55.	Total.
UNCLASSIFIED.									
Accident	2	2	9	3	7	5	3	4	35
Suicide	1	1	3	6	7	2	2	3	25
Murder	..	..	2	..	1	..	..	..	3
Overdose of medicine	1	..	..	1	..	1	..	..	3
Sunstroke	..	..	..	..	..	..	1	.	1
Surgical operation	..	..	..	..	..	..	1	1	2
Pistol or gunshot wounds	1	..	5	5	2	2	1	..	16
Drowning	..	2	2	3	3	2	..	..	12
Scalds and burns	..	2	1	1	..	..	..	..	4
Internal hæmorrhage	..	..	1	..	..	..	..	..	1
Puerperal condition	1	1	2	..	..	..	..	..	4
Unknown	..	..	1	..	..	..	..	..	1
Judgment of the court	..	..	..	..	..	..	..	2	2
Total	6	8	26	19	20	13	8	10	110

TABLE OF DEATHS FROM 1 TO 1,000, INCLUSIVE, OCCURRING IN THE AMERICAN LEGION OF HONOR, FROM SEPTEMBER 5, 1879, TO MARCH 1, 1884. SHOWING THE NUMBER OF DEATHS IN EACH STATE, THE CAUSE OF DEATH, AND THE NUMBER DYING OF EACH CAUSE, WITH THE NUMBER OF MEMBERS IN EACH STATE, AND THE RATIO OF DEATHS.

STATES.	CONSTITUTIONAL															
	Cancer.	Other Constitutional Diseases.	Phthisis.	Zymotic Diseases.	Disease of Urinary Organs.	Disease of Nervous System.	Disease of Circulatory System.	Disease of Respiratory Organs.	Disease of Digestive Organs.	Unclassified.	Total.	Male.	Female.	Total.	Number of members.	Ratio of death, 1 to—
New York	6	2	16	25	11	23	12	30	19	23	167	142	25	167	10,263	$61\frac{73}{167}$
Texas	2	3	5	35	3	13	1	21	19	13	115	92	23	115	3,221	$28\frac{1}{115}$
Massachusetts	6	2	22	15	8	14	7	12	16	10	112	95	17	112	5,625	$50\frac{7}{28}$
Pennsylvania	3	1	13	24	5	16	7	13	6	8	96	93	3	96	5,795	$60\frac{35}{96}$
California	1	3	3	14	2	10	9	8	11	12	73	56	17	73	3,644	$49\frac{67}{73}$
New Jersey	2	2	9	8	4	5	4	12	1	3	50	44	6	50	3,013	$60\frac{25}{50}$
Ohio	2	3	4	8	2	6	2	8	6	7	48	45	3	48	2,089	$43\frac{25}{48}$
Georgia	..	1	2	13	1	10	2	3	7	3	42	38	4	42	1,369	$30\frac{4}{42}$
Maryland	..	2	3	1	2	3	6	7	3	2	29	28	1	29	1,951	$66\frac{15}{29}$
Wisconsin	2	..	6	3	1	2	3	8	..	3	28	24	4	28	1,595	$21\frac{7}{28}$
Virginia	..	1	3	2	..	5	5	6	1	3	26	23	3	26	1,072	$41\frac{6}{26}$
Missouri	1	1	..	1	1	4	1	7	5	4	25	20	5	25	2,007	$80\frac{7}{25}$
Illinois	..	..	3	5	..	2	1	6	2	5	24	23	1	24	1,738	$72\frac{10}{24}$
Tennessee	..	1	2	9	2	..	2	..	2	4	22	20	2	22	705	$32\frac{6}{22}$
North Carolina	1	..	2	4	..	2	3	4	3	1	20	17	3	20	807	$40\frac{7}{20}$
District of Columbia	2	1	1	..	1	2	3	5	4	..	19	18	1	19	648	$34\frac{4}{19}$
Arkansas	..	..	..	2	1	4	1	5	2	1	16	16	..	16	382	$23\frac{14}{16}$
Mississippi	..	..	..	2	..	1	1	4	4	..	12	9	3	12	590	$49\frac{3}{12}$
Louisiana	..	..	..	5	..	4	1	1	..	..	11	10	1	11	1,070	$97\frac{3}{11}$
Maine	1	..	2	1	1	1	1	..	1	1	9	9	..	9	508	$56\frac{4}{9}$
Alabama	..	..	..	2	..	4	..	..	1	1	8	7	1	8	457	$57\frac{1}{8}$
Minnesota	..	..	1	1	..	2	..	..	3	..	7	7	..	7	360	$51\frac{3}{7}$
West Virginia	..	..	..	..	1	3	..	1	..	1	6	6	..	6	212	$35\frac{1}{3}$
South Carolina	..	..	..	..	1	3	..	..	..	1	5	5	..	5	528	$105\frac{3}{5}$
Iowa	1	..	..	..	..	2	..	1	..	2	6	6	..	6	256	$42\frac{4}{6}$
Rhode Island	1	..	1	..	..	..	..	..	1	1	4	4	..	4	465	$116\frac{1}{4}$
Nebraska	..	..	..	1	..	1	..	..	1	1	4	3	1	4	318	$79\frac{1}{2}$
Canada	..	..	..	..	..	1	..	2	1	..	4	4	..	4	70	$17\frac{1}{2}$
Indiana	..	..	1	..	..	..	1	..	1	..	3	3	..	3	86	$28\frac{2}{3}$
Kentucky	..	..	..	..	1	..	..	..	1	..	2	2	..	2	128	64
Connecticut	1	..	..	..	..	..	1	..	..	..	2	2	..	2	289	$144\frac{1}{2}$
Oregon	..	..	..	1	..	..	..	1	..	..	2	..	2	2	88	44
Michigan	1	..	..	..	..	..	..	..	..	..	1	..	1	1	146	146
New Brunswick	..	..	..	..	..	..	..	1	..	..	1	1	..	1	132	132
Sandwich Islands	..	..	..	..	..	..	..	..	1	..	1	..	1	1	76	76
Total	33	23	99	182	48	143	74	167	121	110	1,000	872	128	1,000	52,868	
Male	22	19	86	156	43	132	66	146	103	99			872			
Female	11	4	13	26	5	11	8	21	18	11		128				
Total	33	23	99	182	48	143	74	167	121	110		1,000	1,000			

The Value of an Autopsy.—A consultation was held by four physicians. The patient asked his attending physician the result of their deliberation. He was told an agreement could not be arrived at; that three of the doctors were of one opinion, while he (the attendant) held another. "How, then, will the matter be settled?" anxiously asked the patient. "The autopsy will decide the question," was the reply.

HÆMATURIA.

By H. RAPHAEL, M. D.,

ATTENDING PHYSICIAN TO BELLEVUE HOSPITAL OUT-PATIENT DEPARTMENT, CLASS OF GENITO-URINARY DISEASES AND SYPHILIS.

(*Concluded from page 580.*)

It was formerly supposed to be possible to diagnosticate hæmorrhage from the kidney or from the bladder by the aid of litmus-paper. But in profuse hæmorrhage the alkaline blood totally neutralizes the acidity of the urine, and the urine will react alkaline though the bleeding is not from the bladder. Moreover, the urine may have been rendered alkaline by the use of alkalies or mineral waters taken by the patient, or, where chronic cystitis complicates the disease, the pus will completely neutralize the acidity of the urine; in such cases we may have an alkaline reaction of the urine in hæmorrhage from other points than from the bladder. Again, we often see bleeding from the bladder with markedly acid reaction of the urine. This is generally the case where *no* purulent catarrh of the bladder is present and where the hæmorrhage is capillary. Thus the mere reaction of the urine on litmus-paper is of no value whatever.

But the presence or absence of carbonate of ammonium in the urine is of more importance. Where it is present in considerable quantities, it is highly probable that the bleeding comes from the bladder, the urea of the urine, as a result of decomposition in consequence of the abnormal cystic contents, having been converted into carbonate of ammonium. Hence the presence of ammonio-magnesian-phosphatic crystals in the sediment of the urine is of the utmost importance in the diagnosis of bleeding from the bladder, because these crystals incontestably prove the presence of carbonate of ammonium in the urine.

The presence of carbonate of ammonium in the urine is readily detected by its pungent odor. Vogel advises boiling some of the urine in a test-tube tightly corked, through which a piece of glass tubing is fixed containing a strip of moistened red litmus-paper. The escaping moisture carries with it the vapor of the ammonia that is present over the litmus-paper, converting the red into a blue color. A more handy method, but not quite so certain, is to dip a strip of red litmus-paper in the urine, noting the intensity of the change to blue, and then allowing it to become dry. If the now blue-colored paper becomes red again, it is proof that a volatile alkali was present, producing that color; but, if the paper remains distinctly blue on drying, it shows that a fixed alkali (most likely carbonate of sodium) is present. This test is, however, only effectual in distinctly alkaline urine.

The color of the urine is often of material aid in the diagnosis. Reddish-brown or coffee-colored urine has always been regarded as containing blood from the kidney, and bright-red colored urine has been ascribed to bleeding from the bladder. In the main these conditions hold good. The brown and reddish-brown colors of hæmaturia are due to deoxidized hæmoglobin, and can only occur in those cases where blood and urine well mixed are retained for some time in the urinary organs. This is generally seen in capillary hæmorrhage; the blood and urine being mixed slowly, drop by drop, the blood corpuscles being slowly acted upon by the warm urine, corroding them, the component parts of the urine finally transforming the red hæmoglobin into the brownish methæmoglobin. As a marked example of this kind we may mention capillary hæmorrhage of the bladder due to carcinoma of that organ. In more active hæmorrhage, for instance, in cases of rupture of a larger blood-vessel in the bladder, the case is altogether different. Here a large amount of blood is poured out at once into the urinary apparatus, generally into the bladder, distending it suddenly, and this sudden distension of the bladder stimulates it to expel its contents, and the blood is evacuated long before the component parts of the urine have an opportunity to disorganize the hæmoglobin and blood corpuscles. Hence, since hæmorrhage from the bladder is usually due to rupture of a larger blood-vessel, and bleeding from the kidney is most frequently of capillary origin, the brownish-red or brownish-black colored urine is ascribed to bleeding from the latter, while the bright-red or blood-red color is diagnostic of the former.

The specific gravity of the urine in hæmaturia is only of importance from a diagnostic point of view, from the fact that hæmorrhage from the pelvis of the kidney and from the kidney proper not infrequently is attended by such diseases of these organs (pyelitis) as give rise to polyuria, which of itself produces a lowering of the specific gravity of the urine, while bleeding from the bladder with co-existing cystitis is but seldom attended by polyuria, the urine itself, as regards its specific gravity, remaining normal.

The form of the coagula, when present, will often enable one to ascertain the source of the hæmorrhage. If the coagula have the appearance of recently solidified blood, are soft, and dark-red in color, it is evident that the blood has but recently been poured out, not yet being bleached by the urine; but if the coagula are of a pale or dirty yellow color, looking like flesh, it is plain that they have been for some time in the urinary organs and been subjected to the action of the urine. Simon says that short or oblong bleached, or dirty-yellow colored coagula generally originate in the dilated pelvis of the kidney, and appear in the urine some time after severe bleeding of the kidney. Irregularly shaped, torn, ragged, or broken coagula are supposed to come from the bladder; but they are not at all characteristic, for the bleeding spot may be in the kidney just as well as in the bladder, the blood having reached the bladder in a liquid condition and then become coagulated. They do not invariably occur in hæmaturia. They are never seen in capillary hæmorrhage, because here every drop of blood exuded is immediately mixed with an equal, if not larger, amount of urine, and are only met with where the bleeding is profuse, or in places in which the quantity of the blood exceeds the amount of urine present—for instance, in the pelves of the kidneys and the ureters; they only occur in the bladder when that viscus is well-nigh free from urine.

The microscopical examination of the sediment of the urine affords very important data in cases of hæmorrhage of the kidney. In capillary hæmorrhage of the kidney, *rouleaux* of blood corpuscles or casts and epithelium-cells of the kidney, tinged brown by the coloring matter of the blood, are present; nothing, however, characteristic of hæmorrhage from the kidney is found in the sediment of the urine in cases of bleeding from larger vessels. Doubtless some epithelial cells are washed away by the blood-stream, but they are not easily found, and the microscope detects nothing but blood corpuscles in the sediment. Nor does the microscope show anything characteristic in cases of bleeding from the bladder, save where a cystitis is at the same time present; in that case a greater number of epithelial cells from the mucous membrane lining the bladder, and crystals of phosphate of ammonium and magnesium, are found.

The source of the hæmorrhage may be in the kidney and its pelvis, in acute fevers, for instance, or in parenchymatous nephritis, in calculi of the kidney, thrombosis, neoplasms, and injuries of the kidney, the use of poisonous drugs; from the bladder, injuries, neoplasms, calculi, ulcerations of the neck of the bladder; from the urethra, in acute inflammations and injuries due to accidents or the use of instruments.

As an extended discussion of these various morbid conditions would prolong this article very much, since its object mainly is the description of the most practical measures that are best calculated for the treatment of hæmaturia, I intend briefly to describe those remedies only which have been found most useful in arresting bleeding from the genito-urinary organs.

In the treatment of hæmaturia, both local and general remedies may be required. In the milder form the bleeding will often cease spontaneously, or at the most local remedies alone will suffice; but, where the hæmorrhage is so profuse as to endanger life, the best known hæmostatics, both general and local, will have to be employed. But, be the hæmorrhage profuse or not, the physician should insist that the patient should rest in bed with his hips elevated. Cold in the form of wet compresses, applied over the renal region or over the pubes and perinæum, is very useful. Bladders filled with ice placed upon these wet compresses will keep them cold for an indefinite length of time, and avoid the necessity of changing them often. In bleeding from the bladder, cold-water enemas and injections into the bladder itself, by the aid of a catheter, will often be of the utmost service; no metallic catheter, however, should be employed, as it often aggravates the bleeding. In using cold-water injections into the bladder, care should be taken to ascertain that no large coagula have formed in that viscus. Some surgeons advise first removing the coagula by the aid of a large-sized catheter and suction syringe. It must not be forgotten, however, that the efforts to remove the coagula and the use of instruments in the bladder are apt to give rise to fresh bleeding; hence these measures are only to be resorted to when other measures have failed. If the coagula have become solidified, and it is found impossible to extract them by the aid of a catheter and syringe, and the bladder is unable to expel them by its own expulsive efforts, it will be best to leave them to the action of the urine, which sooner or later becomes decomposed, giving off carbonate of ammonium, which, in its turn, acts quickly upon the clots, decomposing and disorganizing them, causing them to break down and to crumble away, and they are then readily expelled by the contractions of the bladder and washed away by the stream of urine through the urethra. It will, however, scarcely ever be necessary to use instruments for the removal of blood-clots from the bladder; and most writers on the subject are of the opinion that it is hazardous to do so. One of the most efficient remedies for the arrest of hæmorrhage from the kidney or bladder, according to my experience, is dry cups over the kidneys or hypogastric region. The *modus operandi* of this remedy needs scarcely to be explained here. From twenty to thirty dry cups may be applied and reapplied if necessary. In one very severe case of hæmaturia all known remedies failed to arrest the bleeding till the patient was cupped. Where the bleeding is due to fissures or ulcers of the neck of the bladder, blisters to the perinæum are often very efficacious. In an unusually interesting case of hæmaturia due to this cause, reported by me in the "New York Medical Journal," May 26, 1883, the hæmorrhage was finally arrested and the patient cured by the application of two blisters over his perinæum. Internally, ergot in liquid form, thirty to forty drops every hour of the fluid extract, or ergotin, hypodermically, is often an efficient hæmostatic.

In protracted hæmorrhage due to exuberant neoplasms in the bladder, Sir H. Thompson recommends the use of a solution of nitrate of silver injected into the bladder through a catheter. A mild solution (gr. j to water ℥ ij) should be used at first, and gradually increased in strength if necessary.

Urethral hæmorrhage is readily controlled by the use of cold water injected into the urethra, and, should this fail to arrest the bleeding, the penis should be compressed with strips of adhesive plaster or bandage, with a catheter in the urethra.

As an instance of a grave form of hæmaturia, the following case may be mentioned here, if only to show how difficult it is sometimes to locate the site of the lesion:

Francis D., aged forty-two, married, merchant, was hurt by being jammed between an iron gate and the frame, the gate striking him in the median line of the body. About half an hour afterward, on attempting to urinate, the stream was preceded by a clot; the urine that followed was more or less mixed with blood; his under-clothing and lower extremities, on examination, were found to be bloody. He had severe pain in the region of the right kidney, extending downward to the right testicle and glans penis, and also over the pubes. He was obliged to micturate frequently. Sometimes the urine was bloody, then again it would be clear; sometimes he passed clots of blood, and often drew out long, vermiform clots from the urethra. He had more or less pain both before, during, and after micturition; as soon as urine or blood collected in the bladder the pain recurred, and he would be obliged to urinate again. His appetite was bad, his sleep was disturbed, his pulse ran up to 98, and his temperature to 102°. He had a pinched, haggard expression, moaned a good deal, and was distressed, no matter what position he assumed. He had evidently lost a good deal of blood before I saw him, as he was pale and anæmic. I gave him morphine (hypodermically) for the relief of the pain, and ordered cups to be applied over the region of the kidney for the arrest of the bleeding; both succeeded admirably; and enemas to clear out his bowels. When the urgent symptoms had subsided I examined, by the aid of bougies, and found a stricture at the bulbous portion of the urethra, which would not admit a 14 F. bulb sound. This was subsequently confirmed by Dr. Stephen Smith, who was of the opinion that it was the result of a laceration of the urethra, which occurred at the time of the accident, and was the lesion that gave rise to the bleeding. Patient recovered from his hæmaturia, but has not yet regained the full caliber of his urethra. Since the accident he has also, he states, been impotent, having lost all virile powers.

In this case it was impossible to locate the site of the lesion from the appearance of the urine, it varied so both in character, quantity, and color. The chief location of the pain, the right lumbar region, would seem to indicate that the right kidney had sustained an injury, while the formation of long, vermiform coagula, and the subsequently discovered lesion of the urethra, would have justified the conclusion that the bleeding was caused by an injury anterior to the neck of the bladder. I am very much inclined to the belief that both conditions obtained here, and their co-existence is not incompatible under the circumstance.

Book Notices.

A System of Practical Medicine. By American Authors. Edited by William Pepper, M.D., LL.D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, assisted by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Volume I Pathology and General Diseases. Philadelphia: Lea Brothers & Co., 1885. Pp. 14–35 to 1094, inclusive.

The names of the editors and their collaborators are a sufficient guarantee that this work is not one of those compilations such as flood the medical publishers, and the medical public, at the present day.

It is impossible to present more than a brief *résumé* of the contents of the book in a short notice. The first one hundred and twenty-five pages are devoted to a discussion of "General Morbid Processes." The writer, Dr. R. H. Fitz, has succeeded admirably in compressing his broad subject into the narrow limits assigned to it. He has brought it fully up to date, and, while concise, he is never obscure. It is not every writer who possesses the ability to infuse life into such a well-worn theme.

Dr. Hartshorne writes on "General Ætiology, Medical Diagnosis, and Prognosis." His subject is a broad one to be discussed in fifty pages, so that the matter of diagnosis must necessarily be skimmed over in a manner that is anything but satisfactory.

Dr. Billings contributes a short, but suggestive, article on "Hygiene." He divides his subject as follows: I. Causes of disease, means of discovery and prevention. II. Personal hygiene in its relations to the practice of medicine. III. Public hygiene in its relations to physicians. The article is marked by the author's well-known strong common-sense; the style is clear and forcible.

Mr. George E. Waring has a short paper on "Drainage and Sewerage."

The second division of the work includes "General Diseases," which are thus subdivided:

Dr. Hutchinson writes on simple, continued, typhoid, and typhus fevers. The article upon "Typhoid Fever" comprises a hundred pages, and is most interesting and exhaustive; the treatment is particularly good.

Dr. Pepper's excellent article on "Relapsing Fever" leaves nothing unsaid. The criticism might be offered that its length was rather greater than was justified by the relative importance of the subject. But it should be remembered that, in a book which is the joint product of so many minds, a certain unevenness in the length and character of the articles is unavoidable.

"Variola," "Varicella," and "Erysipelas" are briefly, but satisfactorily, treated by Dr. Hyde.

Dr. J. Lewis Smith has an interesting monograph upon "Scarlet Fever," which, however, might have been greatly condensed by the omission of a number of reports of cases, and the simplification of the matter of treatment.

Dr. Hardaway avoids these errors in writing on "Rubeola."

Only eighteen pages are allowed to "Malarial Fevers," a curious inconsistency, since over three times as much space is given to relapsing fever.

There is a good *résumé* of "Yellow Fever," by Dr. Bemiss. The article on "Diphtheria," by Dr. Jacobi, is the most elaborate and scholarly of all. "Cholera" is thoroughly discussed by Dr. Stillé, the section on ætiology showing an immense amount of research. Koch's theory receives careful attention. The able article on "Epidemic Cerebro-spinal Meningitis" is by the same author. Dr. Keating writes on "Pertussis," Dr. Wilson on "Influenza."

Among the closing essays, by far the most important are Dr. Watson's on "Pyæmia and Septicæmia," and Dr. Lusk's on "Puerperal Fever." Dr. Lusk's ideas upon this subject are already well known, so that it is only necessary to add that the present article is a thoughtful exposition of the latest views upon this subject, marked by the thoroughness of research and by the lucid style which distinguish this author's writings. The paragraph upon treatment is particularly good.

In conclusion we desire to add that the volume is very creditable to the American profession. Imperfections it has, without doubt, but they are largely such as can with difficulty be avoided in a work which covers so much ground, and bears the impress of so many different hands. We trust that in the next volume there will be an effort made to adapt the length of each paper to the importance of its subject.

The type, binding, and general appearance of the book are excellent.

Elements of Surgical Diagnosis. By A. Pearce Gould, M. S., M. B. Lond., F. R. C. S. Eng., Assistant Surgeon to the Middlesex Hospital, etc. Philadelphia: Henry C. Lea's Son & Co., 1884. Pp. viii–584.

The author of this little work enjoys an enviable reputation as a teacher of surgery, so that the book with which his name is associated will be sure to carry with it the promise of usefulness. The reader will not be disappointed in any expectations which he may have formed. The simple, unpretending volume is, like its author, accurate and scholarly. No important facts with reference to surgical diagnosis have been omitted, but the criticism which we feel obliged to make is that the arrangement of these facts is not always a felicitous one. We are impressed with the amount of valuable information that is contained in every page, yet it is not so disposed as to be accessible at short notice. Doubtless the demands of the publisher required the condensed form of the paragraphs, but the appearance of the text, as well as the convenience of the reader, would have been better consulted if the symptoms had been arranged so far as possible in columns. In his discussion of the different subjects the author follows a natural sequence. Treating of general diagnosis first, he next considers injuries of the head, spine, neck, chest, abdomen, and pelvis; then injuries of the upper and lower limb. He next discusses tumors, swellings, ulcers, and gangrene; this includes the first twenty-two chapters of the work. Chapters XXIII to XLIV, inclusive, deal with the diagnosis of surgical diseases, the same order being observed as in the case of injuries. In other words, the author divides his book into two parts, one of which is devoted to injuries and the other to diseases. This is certainly convenient for reference, however it may differ from the traditional custom of surgical writers.

Among the many excellent chapters we notice particularly those on injuries of the head and spine and on special injuries of the limbs. Chapter XV, on "The General Diagnosis of Swellings and Tumors," is a long and excellent one. The paragraph upon "Fluctuation" (page 255) contains the clearest and most practical directions that we have read for avoiding errors in the detection of this important sign. The chapters upon diseases of the joints, of the breast, of the testicle, and of the urinary organs are very good. The closing chapters upon affections of the hand and foot are very brief, and are not quite so thorough as the others.

To characterize Mr. Gould's system in a few words, we should say that it was eminently analytical and practical. He believes in using common sense above all in making a diagnosis, and, moreover, in following a method. In our opinion his book will prove an invaluable aid to students, and it will be an excellent idea for practitioners to acquire the habits of care and accuracy which it inculcates. But the best thing about Mr. Gould's book is that it is not a compilation; it is the outgrowth of experience, and is correspondingly valuable.

A Hand-book of Pathological Anatomy and Histology, with an Introductory Section on Post-Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues, by Francis Delafield, M. D., Professor of Pathology and Practical Medicine, College of Physicians and Surgeons, New York, and T. Mitchell Prudden, M. D., Director of the Physiological and Pathological Laboratory of the Alumni Association of the College of Physicians and Surgeons, New York, etc. New York: William Wood & Co., 1885. Pp. xvi–575.

As is stated in the preface, this book is really a second edition, although it has received so many additions as to be essentially a new work.

A glance at the table of contents will show that its scope of the work is a broad one. Part I, comprising forty-six pages, contains directions for making post-mortem examinations and some general hints with reference to the preservation and preparation of pathological specimens. Part II, including pages 47 to 154, covers a wide range of subjects, embracing general changes in the blood and tissues, animal parasites, bacteria and their relation to disease, inflammation, and tumors. Part III extends from page 154 to page 483, and treats of the pathological changes in all of the separate organs of the body, including the bones and the muscle. Part IV is devoted to concise descriptions of the lesions found in several general diseases, as well as after death from accidents, poisoning, etc.

The strong point of the book lies in its admirable illustrations. We desire to call particular attention to the drawings in the section on "Tumors," as being beautifully and faithfully executed. The subject of the "Respiratory System" is also finely illustrated. The text is necessarily concise, but in most instances no important facts have been omitted. The authors follow Orth in the plan of their hand-book, but they happily avoid the extreme brevity and frequent obscurity which mar that writer's style. The sections upon the nervous and respiratory systems are specially valuable. The student will be puzzled by the seven distinct varieties of Bright's disease, a description of which will be found under the head of "The Urinary Apparatus." Under the head of "Lesions of the Female Organs of Generation" we note as most readable the sections on tumors of the uterus and on ovarian cysts. The important subject of diseases of the tubes has received very little attention. The paragraphs upon diseases of bone are concise and to the point. The brief account of the appearances to be seen after death from typhoid fever, typhus, cholera, etc., as well as in cases of violent death, will be extremely useful to the practitioner as well as to the student.

We have no hesitation in affirming that this book is worthy of the highest commendation, for its mechanical execution, even if it possessed no other merits. But the subject-matter is well arranged, all irrelevant material has been rejected, and, while the editors sometimes err on the side of brevity, they are never tedious. The drawings (notably some of those by Dr. Prudden) are superior to any of the sort that we have seen. The type, binding, and general appearance of the volume are most pleasing.

Holden's Anatomy. A Manual of Dissection of the Human Body. By Luther Holden, late President of the Royal College of Surgeons of England, etc. Fifth Edition, edited by John Langton, Surgeon to, and Lecturer on Anatomy at, St. Bartholomew's Hospital, etc. With over Two Hundred Illustrations. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xix–17 to 886, inclusive. [Price, cloth, $5; sheep, $6.]

In its present form this is truly an admirable manual of dissection. Although dealing with a subject which has been ably handled by many other English anatomists, notably by Heath and Ellis, the author has infused so much of his own individuality into his work that it can not well be compared with any similar book. The most serious criticism upon the present edition is that it is rather too bulky for use in the dissecting-room. The cuts are small but clear, and the only occasion for regret is that they are not more numerous.

It seems unnecessary to introduce much minute anatomy into a dissector's manual, nor does the average student generally follow out the elaborate directions for preparing the special sense-organs.

The volume is enriched by numerous foot-notes, which contain many curious and valuable surgical as well as anatomical facts. The work of the editor, which relates principally to the dissection of the nervous system and sense-organs, has been well done.

The publishers' task has been executed in a manner above reproach.

A Manual of Human Physiology, including Histology and Microscopical Anatomy; with Special Reference to the Requirements of Practical Medicine. By Dr. L. Landois, Professor of Physiology and Director of the Physiological Institute, University of Greifswald. Translated from the Fourth German Edition. With additions by William Stirling, M. D., Sc. D., Regius Professor of the Institutes of Medicine or Physiology in the University of Aberdeen. With 176 Illustrations. Vol. I. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. xxxi–514. [Price, $4.50.]

This is one of the most successful translations that we have seen for a long time. Aside from the fact that the German has been rendered into smooth, readable English, the translator's additions possess a positive scientific value.

As the editor aptly remarks, the popularity of Landois's work lies chiefly in the fact that the author "never loses sight of the fact that the student of to-day is the practicing physician of to-morrow." Instead of divorcing physiology and pathology, as is the custom in most text-books, in the present volume the natural sequence is continually traced. In order to adapt the work to the wants of English readers, Dr. Stirling has made a number of additions to the histological portions, and has introduced many new illustrations. All of the recent apparatus employed in physiology is described and figured. The type and binding are up to the best work. We note with some surprise the absence of an index, which is a serious defect in a book otherwise so admirable. It is, doubtless, the intention of the editor to introduce this at the conclusion of the second volume.

The Therapeutics of the Respiratory Passages. By Prosser James, M. D., Lecturer on Materia Medica and Therapeutics at the London Hospital Medical College, etc. New York: William Wood & Co., 1884. Pp. vii–316. [Wood's Library of Standard Medical Authors.]

The writer has shown great research in the collection of his material for this volume. It is, however, rather the book of the scholar than of the practitioner. The subject is well discussed, in places even exhaustively so, but one feels, after a careful perusal, that the difficulty lies in selecting the useful and in discarding the non-essential. It is difficult to see the necessity of introducing historical sketches of modes of treatment that are now practically obsolete. It would have been more satisfactory to find the subject treated of in fewer pages, and we think nothing of importance would have been omitted. It might be wished that the author had spoken with more positiveness and had drawn his conclusions rather from observation than from reading. The book will amply repay the reader the time necessary for its study, and forms a useful *résumé* of the important subject upon which it treats.

The Basic Pathology and Specific Treatment of Diphtheria, Typhoid, Zymotic, Septic, Scorbutic, and Putrescent Diseases generally. By George J. Ziegler, M. D., late Physician to the Philadelphia Hospital, etc. Philadelphia: George J. Ziegler, M. D., 1884. Pp. 225. [Price, $2.]

To quote from the preface (in part), the author endeavors to show that all diseases classed as scorbutic, necræmic, typhoid, zymotic, septic, infectious, malarial, gangrenous, or putrescent, are dependent upon or complicated with one common basic, alkaline, pathogenic factor—ammonia. In the treatment, this prime morbific factor must be decomposed, neutralized, or removed by acidulous agents. The book, in spite of the superfluity of adjectives and the involved style, is interesting reading, although neither the author's premises nor his conclusions will meet with entire acceptance. In these times of medical skepticism it is refreshing to find a book of positive conclusions in regard to therapeusis, even though we may, in many respects, disagree with the author.

A Treatise on Physiology and Hygiene. By Joseph C. Hutchinson, M. D., LL. D., etc. New York: Clark & Maynard, 1884. Pp. 314.

To write a popular treatise upon physiology and hygiene that shall be trustworthy in teaching, and yet be within the comprehension of the average lay reader, is indeed a difficult task. The perusal of this book shows that the writer has acquitted himself well. While the teaching upon alcohol may seem, perhaps, too severe, the question is plainly stated. By no means the least interesting portions of the book are the foot-note quotations, very apt from various writers upon kindred subjects. The book seems eminently well suited to the purpose for which it was written.

Female Hygiene and Female Diseases. By J. K. Shirk, M. D., etc. Lancaster, Pa.: Lancaster Publishing Co., 1884. Pp. 102.

This very readable little book treats of the more common symptoms of the diseases of women. One could wish that more stress had been laid upon the hygiene and much less upon the medicinal treatment of the diseases, especially the recommendation of the bromides, the prolonged use of which, although by no means so harmful as that of chloral, is certainly not devoid of unfortunate results.

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the Obstetrical Society of London. Vol. XXVI, for the Year 1884. With a List of Officers, Fellows, etc. London: Longmans, Green, & Co., 1885. Pp. lxvi–375.

A Treatise on Abdominal Palpation as applied to Obstetrics, and Version by External Manipulations. By A. Pinard, Associate Professor in the Faculty of Medicine of Paris, etc. With 29 Woodcuts inserted in the Text. Translated by L. E. Neale, M. D., Chef of the Obstetrical Clinic and Demonstrator of Obstetrics in the University of Maryland. New York: J. H. Vail & Co., 1885. Pp. 101.

Twenty-fifth Annual Report of the Medical Superintendent of the State Asylum for Insane Criminals, Auburn, N. Y., for the Year ending September 30, 1884.

Correspondence.

LETTER FROM CINCINNATI.

The Close of the Winter's Work at the Colleges.—The Medical Societies.—The Ethical Question.—The State Medical Society.—The late Dr. Clendenin.—Changes in the College Faculties.—Sanitation in the State.

Cincinnati, *May 21, 1885.*

Medical matters are certainly quite as dull here as they can be elsewhere. The regular lecture sessions in our three colleges were all concluded before the middle of March. There has been a general abandonment of the old-time farce of a "reading and recitation term." There is neither a post-graduate nor a spring college in Cincinnati. It follows, therefore, that with the departure of the winter students there occurs a general suspension of activities in medical circles. In former years clinics were given twice or three times a week in the City Hospital; we are not, however, aware of the presence in the city of enough students to justify this show of vitality, and we lack information that the lectures are being delivered. It may be that this is all for the best, and that the long rest from March till September assures an increased stock of energy to be expended in the next winter's lectures.

There are two general medical societies in Cincinnati—viz., the Academy of Medicine and the Cincinnati Medical Society. The Cincinnati Obstetrical Society is the only special organization in the city. There are, however, a number of private medico-social clubs, where other than medical topics are discussed. It would seem that a city having from six hundred to eight hundred physicians could easily sustain this number of organizations, but the generally meager attendance at the meetings, particularly of the Academy and the Cincinnati Medical Society, would seem to indicate otherwise. The fact is that either animosity or apathy interferes with the popularity of both these societies. The time was when there was but one society in Cincinnati, and that was the Academy of Medicine. About ten or twelve years ago Dr. Reamy, then a new-comer to Cincinnati, made a declaration in debate to the effect that there "were members of the Academy in otherwise good standing who were guilty of criminal abortion." It so happened, but at whose connivance was never ascertained, that representatives of the daily press were present, and the decidedly sensational scene that ensued was spread before a scandal-loving public with great fidelity to details. An effort was made to get Dr. Reamy to make his charge more specific. He declined to give names, but stuck to his original declaration. A motion was then made to expel him. On this motion the party lines were closely drawn. Dr. Reamy was a member of the faculty of the Medical College of Ohio; his immediate antagonists were of the faculty of the Miami Medical College. The third party, the Cincinnati College of Medicine and Surgery, kept its hands off and watched the fun. The vote came and Reamy was vindicated. The Miami people said no man could maintain his self-respect and remain a member of the Academy. They accordingly resigned and organized the Cincinnati Medical Society, which has been in operation ever since. This is the brief outline of one of the most acrimonious fights that ever ruffled the surface of professional circles in Cincinnati. The feelings then engendered have succeeded in keeping many people from both the Academy and the Cincinnati Medical Society, for in that way alone was it possible to maintain friendship with both factions. The result has been a dearth of good matter presented at both societies. The active participants in the old fight are, however, gradually retiring from the field of active practice and are fortunately quite unable to leave their hatreds as a heritage to the new generation. While a union of both societies is hardly probable, at least in the near future, it is understood that the bloody chasm is about to be bridged by the organization of a county association. In that both factions can meet without compromising their original positions, and the suburban and rural practitioners can be brought into affiliation.

The "code question," which has torn up New York, is the irrepressible issue of the near future in Cincinnati. It is asserted by members of the Cincinnati Medical Society that members of the Academy consult with irregulars, and the Academy people return the charge. If all the witnesses in the case are credible, the conclusion is irresistible that some individuals, at least, in both camps do not decline a fee when it is to be obtained by transcending the provisions of the code. It is a fact that in Cincinnati a large proportion of physicians do extend more or less of recognition to irregulars. They do it, if not clandestinely, yet not openly. The practice is much more than winked at. If the physicians who meet irregulars in consultation were to frankly compare notes under this head, they would be surprised to find what a formidable party they comprised. There is but little doubt that the comparison of notes will be made some day, that the revelation of strength will be made, and that the assertion of the position will then ensue. When that time comes there will be a repetition here of the war that has so recently been waged in New York. The old lines will be readjusted, and the medical politics of that eventful hour will bring strange bedfellows.

The Ohio State Medical Society will meet at Dayton, June 3d, 4th, and 5th, under the presidency of Dr. J. C. Reeve, of that city. The programme that has been issued affords a text for some wholesome criticism. Dr. Reeve, who enjoys great personal popularity with the profession of the State, was energetic in his efforts to secure a full and interesting programme, and he was ably seconded by Dr. Collamore, of Toledo, the very efficient secretary. The net result of this effort was a promise of eleven papers that are announced on the programme. The profession of Ohio should blush at such an exhibit. The fault, however, is chiefly with the society itself. It is not organized on a representative basis. It is a sort of "free-for-all, go-as-you-please" affair, graduation and membership in a local society being the only prerequisites of membership. An effort was made four years ago to reorganize the society on a representative basis, the design being to convert it into an association. The salient features of the proposed reform consisted in making every member of a regular, local society, by virtue of that fact, a member of the State association; and making it necessary for all papers to be presented to the State association to have been first read before, and referred by, a local society. The legislative work was to have been done by a body of delegates. These changes would have given a force and a meaning to medical organization throughout the State. It is understood that an effort will be made this year to accomplish something in the way of reform.

Professor William Clendenin died recently. The profession is conscious of its loss. One of the most unassuming men, he was one of the most worthy in the profession. The first health officer of Cincinnati, he left his impress upon the sanitary history of the city. The professor of anatomy for nearly a quarter of a century in the Miami Medical College, the fruits of his labors are to be found in the qualifications of his pupils. The impersonation of amiability, he will ever abide in the hearts and memories of those who knew him.

Some changes have taken place in the faculties of the different schools of the city. The death of Dr. Clendenin resulted in the promotion of Dr. Taylor to the deanship of the Miami College. We are not informed that the chair—that of anatomy—so long held by Dr. Clendenin has has been filled; indeed, it will be difficult to get any one who can acceptably follow that lamented teacher. The Miami College has suffered seriously from the loss of Mussey, who died several years ago; of Clendenin, who was unfit for duty last winter; of Murphy, who has sought rest on the retired list; and of Williams, who has become too busy to give his former attention to teaching. This takes from the list the names of those who have given to that school much of the prestige it has enjoyed, and threatens to seriously cripple its future usefulness.

The Cincinnati College of Medicine and Surgery has made but a single change. Dr. Bohlander retires from the chair of chemistry, which is given to two of the most distinguished chemists of the West—Professor E. S. Wayne, M. D., Ph. D., and Professor William Dickoré, Ph. D., the former taking didactic, the latter practical chemistry. Dr. Wayne was for a long time connected in a teaching capacity with the Cincinnati College of Pharmacy, and Dr. Dickoré was formerly identified with the Maryland Pharmaceutical College, Baltimore, and with the chemical department of the University of Giesen, at which latter institution he graduated. The friends of the school are to be congratulated on the change.

The State of Ohio is but poorly provided with sanitary legislation. There is no State board of health, and the boards existing in the towns and villages have their powers largely modified by municipal ordinances. The result is a great diversity of authority with an entire absence of a central and co-ordinating power. The Legislature has adjourned without doing anything in this direction, although cholera is knocking at our national doorways and every necessity for co-operation of sanitary authorities exists. In this exigency a conference of the sanitarians and health officers of the State has been suggested. The conference will probably be held at no distant date.

THE
NEW YORK MEDICAL JOURNAL,
A Weekly Review of Medicine.
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D. Appleton & Co.
Edited by
Frank P. Foster, M. D.

NEW YORK, SATURDAY, MAY 30, 1885.

THE ANNUAL REPORT OF THE SURGEON-GENERAL OF THE NAVY.

The second volume of the "Annual Report of the Secretary of the Navy, for the year 1884," is devoted to the surgeon-general's report for the year 1883. It comprises three hundred and seventy-three closely printed octavo pages, and includes a great deal of narrative and statistical matter of interest not only to the medical officers of the navy, but to the profession in general. The limitations of our space do not admit of our making more than this comprehensive allusion to the great bulk of the contents of the volume, and, so far as our present remarks can be made more specific, they will have to be restricted to the brief introductory portion that appears over Surgeon-General Gunnell's signature.

Small as our navy is, it seems that the incomprehensible parsimony of Congress has failed to furnish adequate means of ministering to its sick seamen. All that the surgeon-general can say of the hospitals at Chelsea, New York, Philadelphia, Norfolk, Washington, and Mare Island is that they have been "kept in as efficient condition as the limited appropriation for repairs of hospitals would permit." He adds that serious embarrassment has resulted from the inadequate number of employees to care for the sick and to maintain a proper state of the buildings and grounds. As an offset to all this, however, it is mentioned that satisfactory arrangements have been made with civil institutions, so that enormous outlays of money have been rendered unnecessary.

The people living in the neighborhood of Portsmouth, N. H., having protested against the presence of infected vessels in their harbor, it is proposed to establish a quarantine station on Widow's Island, in Penobscot Bay. It is estimated that a small pavilion hospital may be established there, together with the necessary offices, at an outlay of not more than $5,000. What the "offices" are to be used for is not very apparent, since the plan seems to contemplate the stationing of but one official at the post, who is to be only a keeper, to take charge of the property when it is not in use and to be withdrawn on the arrival of an infected vessel, in which event "the charge of the island and anchorage will be turned over to the officers of the vessel." We trust that this arrangement is intended to apply only in the case of naval arrivals.

The progress of the Museum of Hygiene is very satisfactory. At the date of the report the collection numbered six hundred and fifty articles. In addition to Sanderson's physiological apparatus, the experimental laboratory has had added to its equipment the appliances for such special investigations as Koch's cultivation apparatus, Hemple's and Winkler's gas apparatuses, a spectroscope, a polariscope, a photometer, and other special instruments.

The surgeon-general makes a vigorous and well-founded plea to the Government to authorize him to provide the officers of the medical corps with such facilities for post-graduate instruction as are now furnished for the line officers, and it is difficult to see on what grounds so reasonable a request can be much longer refused. Certainly it may be hoped that the surgeon-general will not again have to make such a statement as this: "At my request, the three medical officers attached to the Greely relief vessels are now, *at their own expense*, attending selected courses on subjects of principal interest to them, but I regret that *I am not enabled to provide them with tickets for the full course.*"

THE STUDY OF CHEMISTRY IN MEDICAL SCHOOLS.

We have been somewhat apprehensive lest our recent utterances upon this theme should call forth some remonstrances from those who felt interested in preserving this branch of science in the curriculum of medical schools. We have been all the more pleased, therefore, to remark that the sentiments which we expressed have been approved of, not only by a well-known professor of chemistry in a neighboring city, who has sent us a letter on the subject, but also by our worthy contemporary, the "Journal of the American Medical Association." The latter recently published an editorial in which the writer digressed to discuss the matter of preliminary medical examinations in general. We shall not revert to this theme again, but, at the risk of repeating, shall merely add, to what we have already said, that general chemistry is one of the useless appendages of a medical education—an extra limb, in short, which may be removed without detriment to the body at large, while its removal will add to the symmetry and usefulness of what remains.

We do not question the value of this science—far from it. We regard it as a most important element in a liberal education. Our academies and universities give too little attention to it, or render an attractive subject distasteful by dwelling too much upon the theoretical side of it. Let increased interest be awakened in the study of chemistry, but keep it in its proper place. Do not make it a nuisance to a man who has begun the practical part of his education, and naturally weighs every study by its actual value to him in his professional career. We believe that the time will come when medical schools will refuse to patch up the defects in the student's preliminary education, and will assume that a man who has not a decent knowledge of the sciences has no right to aspire to be a physician.

TRAINED NURSES.

Our readers have already enjoyed the privilege of perusing Dr. Peabody's finished address to the pupils of the New York Hospital Training School, which was published in a recent number of the "Journal." We desire to call particular attention to it, and to point out that the writer's sentiments agree closely with those which we recently expressed. The point to which we would specially refer is Dr. Peabody's objection to the "semi-technical training in scientific subjects" which is imparted to the nurses in some of the hospitals in New York. There will not be wanting those who will think that he takes too extreme a view on this matter, but careful reflection will, we think, convince even the most ardent believer in higher education for nurses that this ought not to consist simply in "an imperfect conception of important facts." "A good nurse," as Dr. Peabody aptly puts it, "need not know that there is such a thing as a palmar arch." The fact is, that one of the great objections urged against training-school nurses, especially by practitioners of the old school, is that they are too "high-toned"; that they have acquired just enough theoretical knowledge to make them above their position. There is much truth in this. We would not ignore the honorable and self-sacrificing character of the profession to which so much importance has of late years been attached. The advantages of skilled nursing are appreciated even by those of the laity who have little faith in doctors. But it should never be forgotten that the nurse wins the confidence of her employer only in proportion as she remembers her position and confines herself strictly to its duties. It seems sometimes as if those who were least conscious of the dignity of their calling, and did not know that there was any self-sacrifice about it, attained nearer to the ideal of devotion than those who were over-burdened with a sense of that dignity. Many a lesson of true, unrequited service might be learned from the members of the religious sisterhoods, who, while they are ladies in the true meaning of the term, accept the most menial tasks without a murmur. We might dwell upon other portions of Dr. Peabody's address, but we have confined ourselves to that one which seemed the most important.

MINOR PARAGRAPHS.

AMERICAN PHARMACEUTICAL PREPARATIONS ABROAD.

It has come to be no secret that the recent advances that have been made in pharmacy in this country have not altogether missed being appreciated abroad. Especially is this true of Great Britain, where American preparations have been very much resorted to during the past few years. This has come to pass in spite of the drawback that these preparations fell technically under a class of imports upon which the laws in force in a community committed to free trade authorized the collection of a duty. This obstacle, we are glad to learn from the "Medical Times and Gazette," is likely soon to be done away with, and our manufacturing pharmaceutists may then confidently look for a considerable increase in their foreign trade. We are happy to add that such an event would be nothing more than they have justly deserved.

INDIAN HEMP AS A CAUSE OF INSANITY.

The "Indian Medical Gazette" devotes an editorial article to *Cannabis indica* as a cause of insanity in India, and gives some interesting particulars from a Report on Lunatic Asylums in Bengal for the year 1883, by which it appears that, out of two hundred and thirty-two insane patients admitted and readmitted during the year, the causes assigned for the affection were moral in twenty cases, and physical in one hundred and eight, no cause being given in one hundred and thirty-four. Of the cases in which a physical cause was assigned, seventy-six were ascribed to intemperance in the use of "ganja" and other forms of hemp. The "Gazette" infers, however, that in many of the cases the addiction to hemp was the result rather than the cause of the insanity.

THE MAGAZINE STYLED "BABYHOOD."

Several issues of this little magazine have come to us, and we have examined them with much satisfaction. At the outset we felt that there was some reason to look for its rising above the level of the numerous catchpenny publications with which it was almost impossible to avoid comparing it, and, as the successive numbers have appeared, any doubts that we entertained have been wholly overcome. We feel safe in assuring our readers that in no way can they contribute more surely to the dissemination of sound ideas concerning the care of babies among the anxious and sometimes over-solicitous mothers that they have to deal with than by advising them to subscribe to "Babyhood." The medical editor is Dr. Leroy M. Yale, of New York, whose name is a sufficient guarantee of the quality of the medical teaching given in its pages.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 26, 1885:

DISEASES.	Week ending May 19.		Week ending May 26.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	6	1	1	0
Typhoid fever	9	2	17	4
Scarlet fever	74	19	87	16
Cerebro-spinal meningitis	3	3	5	6
Measles	98	15	96	8
Diphtheria	39	20	50	20
Small-pox	1	0	0	0

The Michigan State Medical Society will hold its twentieth annual meeting at Port Huron, beginning on Wednesday, June 10th. Besides the Address by the President, Dr. Donald MacLean, of Detroit, papers are expected to be read as follows: *Section in State Sanitation.*—"The Quantity of Alcohol given off in Bread-baking, and remaining in Fresh and Stale Bread," by Dr. A. B. Prescott (the discussion to be opened by Dr. R. H. Stevens); "On Legislation to obtain the Publication of Constituents upon the Labels of Proprietary Medicines," by Dr. A. B. Prescott (the discussion to be opened by Dr. H. B. Baker); "On the Comparative Value of some Antiseptics, determined experimentally," by Dr. N. H. Williams; "On Practical Disinfection," by Dr. V. C. Vaughan (the discussion on this and Dr. Williams's paper to be opened by Dr. A. B. Lyons). *Section in Obstetrics.*—"On Tubal Pregnancy," by Dr. J. H. Bache (the discussion to be opened by Dr. Manton); "On the Treatment of the Perinæum," by Dr. W. P. Manton (to be discussed by Dr. Dunster and Dr. Kinne); "On Complete Atresia of the Vagina and Loss of the Urethra and the Base of the Bladder," by Dr. T. J. Sullivan (to be discussed by Dr. Carstens and Dr. C. H. Leonard); "On Sterility," by Dr. C. H. Carstens (to be discussed by Dr. G. K. Johnson and Dr. A. F. Whelan); "On Primary Cancer of the Vagina," by Dr. C. H. Leonard (to be discussed by Dr. N. W. Webber and Dr. C. W. Morse); "On Post-partum Hæmorrhage," by Dr. A. F. Kinne (to be discussed by Dr. H. E. Smith, Dr. W. Parmenter, and Dr. Shepard). *Section in Ophthalmology.*—"The Hygiene of Students' Eyes," by Dr. H. B. Hemenway (the discussion to be opened by Dr. R. J. Kirkland); "Iritis; its Relation to certain General Diseases, and its Treatment," by Dr. C. J. Lundy (the discussion to be opened by Dr. L. Connor). *Section on the Temperance Question.*—"The Physiological, Pathological, and Therapeutical Action of Alcohol," by the Chairman, Dr. A. B. Palmer (the discussion to be opened by Dr. A. F. Whelan). *Section in the Practice of Medicine.*—"Food for Diabetics," by Dr. J. A. Post (the discussion to be opened by Dr. V. C. Vaughan); "Germs in Medical Practice," by Dr. W. H. DeCamp (the discussion to be opened by Dr. E. L. Shurley); "The Microscope in Medicine," by Dr. C. H. Stowell (to be discussed by Dr. J. A. Post, Dr. E. Boise, and Dr. M. Logere); "Migraine," by Dr. O. B. Campbell (the discussion to be opened by Dr. A. R. Smart); "Abscess of the Cerebellum, and Complications," by Dr. C. George (to be discussed by Dr. Munson, Dr. Flinterman, and Dr. Burr); "Sudden Death after Continued Fevers," by Dr. G. P. Andrews (the discussion to be opened by Dr. G. K. Johnson); "The Treatment of Vomiting with Large Doses of Oxalate of Cerium," by Dr. W. R. Chittock (the discussion to be opened by Dr. S. P. Duffield). *Section in Surgery.*—"The Anæsthetics of the Future, or Coming Anæsthetics, with a History of all Anæsthetics to the Present Time," by Dr. S. P. Duffield (to be discussed by Dr. Wade and Dr. Brodie); "Surgical Cases, and Clinical Notes on the same," by Dr. I. E. Brown (the discussion to be opened by Dr. H. O. Hitchcock); "External Perineal Urethrotomy, with a report of Cases," by Dr. H. O. Walker (to be discussed by Dr. E. L. Kimball and Dr. J. B. Griswold); "The Origin of Cancers and Tumors," by Dr. T. A. McGraw (to be discussed by Dr. McCall and Dr. Book); "The Management of the Diseases incident to Hypertrophy of the Prostate," by Dr. H. C. Wyman (the discussion to be opened by Dr. T. A. McGraw); "Plaster of Paris in the Treatment of Fractures," by Dr. H. McCall. *Miscellaneous.*—"The Medical Examination of Applicants for Life Insurance," by Dr. H. F. Lyster (the discussion to be opened by Dr. H. O. Walker).

It is announced that the following-named gentlemen are expected to be present as guests: Dr. Goodell, of Philadelphia, Dr. Hingston, of Montreal, Dr. Strong, of Cleveland, and Dr. A. Reeves Jackson, of Chicago. It is thought that a paper may be read by Dr. Hingston, on "Stone in the Bladder," and one by Dr. Strong, on "The Climacteric in the Male."

Glanders is reported to be prevailing to a considerable extent in the neighborhood of Montreal.

A Rumor of Cholera at Marseilles.—The London correspondent of the "New York Times" professes to have information of the occurrence of a case of cholera at Marseilles, and quotes the opinion of Dr. Bossano that the town is in bad sanitary condition, and will probably not escape the disease this year.

The Protective Inoculation of Yellow Fever, it is reported, is now being tried in the Mexican army.

A New Hospital in New York.—The corner-stone of the Manhattan Hospital, at the corner of One Hundred and Thirty-first Street and Tenth Avenue, was laid last Saturday.

Small-pox is reported to be raging in Page County, Iowa, and it is said that the president of the board of health has the disease.

The Epidemic at Paris Roads, Pa.—During the past week the newspapers have published reports of the prevalence of a malignant affection of the throat in the village. Investigation seems to have shown that the disease is diphtheria.

The Death of Dr. J. B. Treadwell, of Boston, took place on Wednesday, May 6th. The deceased was born in Newmarket, New Hampshire, and was graduated from the Harvard Medical School in 1862. During the late civil war he served in Massachusetts regiments as assistant surgeon and as surgeon, and was assistant surgeon-general of the State on the staffs of Governor Washburn, Governor Talbot, and Governor Gaston. He was a skillful microscopist, and had given much time and study to the examination of blood with reference to distinguishing human blood from that of the lower animals. He was a member of the Massachusetts Medical Society and of the Suffolk District Medical Society.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 17, 1885, to May 23, 1885:*

De Loffre, A. A., Captain and Assistant Surgeon. Relieved from duty at Fort Sisseton, Dakota Territory, and ordered to Fort Totten, Dakota Territory. S. O. 52, Department of Dakota, May 14, 1885.

Brechemin, Louis, Captain and Assistant Surgeon. Ordered for temporary duty at Fort Omaha, Neb. S. O. 44, Department of the Platte, May 18, 1885.

Munday, Benjamin, First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Klamath, Oregon, and ordered to Fort Walla Walla, Washington Territory. S. O. 72, Department of Colorado, May 12, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending May 23, 1885.*

Mead, F. W., Passed Assistant Surgeon. Detailed as member of Board for physical examination of candidates for appointment as cadets in the Revenue-Marine Service. May 18, 1885.

Society Meetings for the Coming Week:

Monday, *June 1st:* New York Academy of Sciences (Section in Biology); Medico-Chirurgical Society of German Physicians, New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Chicago Medical Society; Boston Society for Medical Observation; Hartford, Conn., Medical Association; Providence, R. I., Medical Association; St. Albans, Vt., Medical Association.

Tuesday, *June 2d:* New York Neurological Society; Buffalo Medical and Surgical Association; Elmira, N. Y., Academy of Medicine; Ogdensburg, N. Y., Medical Association; Medical Societies of the Counties of Columbia (Chatham), Franklin, Herkimer, Niagara (Lockport), Orange (Goshen), Saratoga, Schoharie, Ulster (Kingston), and Yates, N. Y.; Hudson (Jersey City) and Warren, N. J., County Medical Societies; Androscoggin County, Me., Medical Association (Lewiston).

Wednesday, *June 3d:* Ohio State Medical Society (Dayton—first day); New Hampshire State Medical Society (Concord); Philadelphia County Medical Society (regular); Medical Societies of the Counties of Cattaraugus and Richmond (Stapleton), N. Y.; Penobscot County, Me., Medical Society (Bangor); Orleans County, Vt., Medical Society.

Thursday, *June 4th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-Psychological Association; Obstetrical Society of Philadelphia; Ohio State Medical Society (second day).

Friday, *June 5th:* Ohio State Medical Society (third day).

Saturday, *June 6th:* Manhattan Medical and Surgical Society, New York (private); Clinical Society of the New York Post-Graduate Medical School and Hospital; Miller's River, Mass., Medical Society.

Letters to the Editor.

THE INTERNATIONAL MEDICAL CONGRESS.

Correspondence between Dr. A. Jacobi, of New York, and Dr. J. V. Shoemaker, of Philadelphia.

New York, *May 25, 1885.*

To the Editor of the New York Medical Journal:

Sir: I inclose the following copy of a recent correspondence with Dr. John V. Shoemaker, of Philadelphia:

1. *Dr. Jacobi to Dr. Shoemaker.*

110 West Thirty-fourth Street, New York, *May 3, 1885.*

Dr. J. V. Shoemaker, Philadelphia.

Dear Sir: The "Medical News" of May 2d contains, on page 494, the following: "Dr. J. V. Shoemaker said new-code men had made threats at Copenhagen, in his presence; hence the statement that he had made was true, as men who had made these threats were now on the committee." As far as I know, the only new-code man on the General Committee of the Ninth International Congress is myself. It is natural, therefore, that I should be anxious to know if you accuse me of having made threats.

Very respectfully yours,

A. Jacobi, M. D.

2. *Dr. Shoemaker to Dr. Jacobi.*

Philadelphia, Pa., *May 5, 1885.*

Dr. A. Jacobi.

Dear Sir: The account in the "News" was not exactly as I made the remarks. As near as I can remember, the concluding sentence was, the statement that I had made was true, as the new-code men were fully represented in the Congress, which was the very best evidence of their recognition by the committee.

Your respectfully,

J. V. Shoemaker.

3. *Dr. Jacobi to Dr. Shoemaker.*

New York, *May 7, 1885.*

Dr. J. V. Shoemaker.

Dear Sir: Besides the "Medical News," to which I referred you in a previous note, you are reported in the "Medical Record" of May 2d to have said that "the committee yielded to the threat made by the new-code men at Copenhagen that, unless they were recognized, they would use their influence to prevent the Congress from coming to the United States." I can not but repeat that I must request you, as I am the only "new-code man" on the committee, to explain what induced you to make the statement you are credited with, or what may have been the cause of the uniform reports in the journals.

Very respectfully yours, A. Jacobi, M. D.

4. *Dr. Shoemaker to Dr. Jacobi.*

Philadelphia, Pa., *May 9, 1885.*

Dr. A. Jacobi.

Dear Sir: I stated in my remarks, which have not been fully reported in any of the accounts that have appeared, the predictions made at Copenhagen, which have been verified by the present arrangement of the Congress. Yours truly,

J. V. Shoemaker.

5. *Dr. Jacobi to Dr. Shoemaker.*

110 West Thirty-fourth Street, New York, *May 11, 1885.*

Dr. J. V. Shoemaker, Philadelphia.

Dear Sir: The "Boston Medical and Surgical Journal" of May 7, 1885, page 456, has the following sentence: "Dr. Shoemaker repeated that the new-code men had made threats at Copenhagen." The "New York Medical Journal" of May 2, 1885, page 500, writes as follows: "Dr. John V. Shoemaker . . . alleged . . . that the new-code men present [at Copenhagen] had openly threatened that they would prevent the acceptance of the invitation unless they received full recognition; as a consequence they had been recognized, as was shown by the fact that they had been given some of the prominent positions with reference to the Washington meeting." These reports agree fully with those I quoted in my previous notes from the "Medical News" and the "Medical Record." Thus, you will pardon me for saying that your two notes did not answer my questions concerning the language quoted. Permit me to ask again: (1) Did you say the new-code men had made threats at Copenhagen? (2) If so, what are the facts supporting such charge? (3) If not, what was the remark you made? Pardon me for requesting an answer, for I have to repeat again that I am the only new-code man on the General Committee who can have been referred to.

Very respectfully yours,

A. Jacobi, M. D.

6. *Dr. Shoemaker to Dr. Jacobi.*

Philadelphia, Pa., *May 13, 1885.*

Dr. A. Jacobi.

Dear Sir: Your letter of May 11th is before me. It affords me pleasure to assure you that in my remarks at New Orleans I said nothing that was intended to personally implicate you. You need offer no apology for your persistency, as this explanation would be due any gentleman who regards himself compromised. I infer from your letter that a personal explanation is what you want, and I am glad of this opportunity to place in your hands such documentary evidence as will exonerate you if you have been wrongly accused by others. If you want any further information for public purposes, I have but to add that it will be *forthcoming* at the *proper time and place.* You will agree with me that your claim upon me can be only personal, not all [? at all] affecting individuals. So, let me again assure you that I shall be most happy to make any explanation that will relieve you of any censure that my remarks may have brought upon you personally.

Yours respectfully,

J. V. Shoemaker.

7. *Dr. Jacobi to Dr. Shoemaker.*

May 14, 1885.

Dr. J. V. Shoemaker.

Sir: Your note of May 13th convinces me that you mean to persist in evading a straightforward and honest answer. I asked a few direct and intelligible questions, and you refuse to give anything but circumlocution. When you spoke in New Orleans you knew you said what was untrue, and, now that you are called upon for an explanation of your conduct, you try to wriggle out of your responsibility. You are altogether mistaken if you think—which I do not believe you do—that I need or desire any justification or exoneration at your hands. You know that what you said at New Orleans about threats being made was not true, and your letters show that you have not the courage to stand up to it. A. Jacobi, M. D.

Note.—A letter of Dr. Shoemaker's which arrived two or three days afterward I returned to its writer unopened.

A. Jacobi.

VACCINATION AFTER EXPOSURE TO SMALL-POX.

Brooklyn, *May 26, 1885.*

To the Editor of the New York Medical Journal:

Sir: Through an error of mine, Dr. Eccles was made to say, in the discussion on his paper, published in the last number of the "Journal," that the effects of combined vaccinal and variolous inoculation had been "demonstrated in thousands of cases," whereas he referred to similar demonstrations with other disease poisons, and applied the general principles naturally deduced from these numerous experiments in the specific discussion following his general paper.

Lower down in the same column the doctor is credited with saying that Law's experiments consisted in the double inoculation of vaccinal and variolous virus, with results more harmful than when either was used alone. What he did say, and what I had intended to say in the report, was, that, applying the inferences logically to be drawn from his experiments (of course with other disease poisons), it would compel us to conclude that a double vaccinal and variolous inoculation would be of greater detriment than the single inoculation with variola.

It is, unfortunately, upon those two points that you attack Dr. Eccles in your editorial. You will therefore do the doctor an act of justice by making these two corrections in your next issue if this note reaches you in time; if otherwise, I should be gratified to have my error announced to the doctor's credit in the succeeding number.

Very sincerely yours,
A. H. P. Leuf, M. D.,
Secretary of the Brooklyn Pathological Society.

DOES VACCINATION MITIGATE VARIOLA WHEN PERFORMED AFTER EXPOSURE?

131 Prospect Place, Brooklyn, N. Y., *May 26, 1885.*

To the Editor of the New York Medical Journal:

Sir: After reading the debate following the reading of Dr. Eccles's paper before the Brooklyn Pathological Society, and published in the last issue of the "Journal," a solution of the debated question offered itself.

First I wish to state that I believe, as Dr. Eccles held, that vaccinia virus is attenuated variola virus. This view is supported by those cases on record in which cows have been successfully inoculated with variola virus; and the lymph from the ensuing vesicles, having been used on human beings, has caused much more severe constitutional symptoms, with a local lesion resembling and identical in nature with that produced by inoculation with vaccinal virus taken from a human being, or from a cow inoculated with virus from another cow, a horse, or a human being. Of course in these latter cases, in which the constitutional symptoms are less severe, the virus is more attenuated and less virulent.

The theory of Salmon seems to be the most probable one yet advanced, and on that I base my argument, which is very short.

The premises are two: 1. The period of incubation of variola is ten to thirteen days, while that of vaccinia is only three to five days. 2. The virus of variola has to take root and form a colony or culture wherever and however it can, while that of vaccinia is offered the most favorable conditions for its multiplication, growth, and absorption by the lymphatics, that experience can suggest and skill secure.

Now, suppose inoculation with both poisons to occur synchronously. In this case might not the cellular elements become tolerant to the presence of the rapidly developed microbes of vaccinia, and consequently be less affected by that less attenuated and more virulent virus of variola? In this case the vaccination would mitigate the small-pox.

On the other hand, suppose inoculation with variola poison to occur to-day, and a vaccination to be done seven or eight days hence. Then both poisons would be developed synchronously, and, being a like in kind, might not that of vaccinia add to the severity of the resulting illness?

Can not this be accepted as a compromise?

Warren C. Sneden, M. D.

Proceedings of Societies

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of May 19, 1885.

The President, Dr. Charles A. Leale, in the Chair.

Advances in the Study of the Ætiology of Disease.—Dr. E. G. Janeway read a paper on this subject, which was devoted chiefly to a review of the germ theory and a mention of the cocci which had been recognized by the adherents to that doctrine as the probable cause of various diseases. Dr. Janeway was disposed to place pneumonia among the infectious diseases, and narrated some instances coming under his observation comparatively recently which went to show its infectious nature. At the opening of his paper he paid a tribute to Virchow, and stated that the Carnegie Laboratory, in the lecture-room of which the meeting took place, would offer advantages in the study of bacteriology scarcely to be found elsewhere in this country.

Specimens of Ulcerative Endocarditis and of Abscess of the Liver were then presented by Dr. Janeway. The first specimen was one of abscess of the liver, and constituted the last of a series of seven described in a paper read at the recent meeting of the New York State Medical Association. The history of this case was not then complete. The man was twenty-seven years of age, was admitted into Bellevue Hospital in January, 1885. May 10, 1884, he lifted a heavy weight on the hand, resting his elbow against the region of the liver, and after that he was troubled with more or less pain, and the evident symptoms of abscess of the liver which finally developed were attributed to the injury which he was supposed to have sustained on that occasion. Dr. Janeway first saw the man in November, 1884, and made a diagnosis of abscess of the liver, basing his opinion upon the following points: viz., pain in the right shoulder, pain in the right side, marked enlargement of the liver, particularly in an upward direction, and the history of injury. Pus was withdrawn by the aspirating needle at a point over the liver where the patient complained of the greatest amount of spontaneous pain. The pain in the right shoulder disappeared after the aspiration, and remained absent until the sac had filled again. The fluid, as in most cases of abscess of the liver, contained few pus cells. Three subsequent aspirations were made, withdrawing sixty-four, eight, and fourteen ounces of pus, similar to that withdrawn at the first operation—chocolate-colored, with few pus cells. After the last aspiration the man exposed himself to rainy weather, and, about the time when it was intended to aspirate again, the abscess burst into the lung and chocolate-colored fluid was coughed up. Two days later an opening was made in the seventh intercostal space on the right side, entering an abscess, which was washed out with boric and salicylic acids. The patient's strength gradually failed, and he died a few days ago of exhaustion. There had been a little dullness near the apex of the right lung. The autopsy showed the sac of the abscess to be situated between the diaphragm, the liver, and the costal pleura, and pus had worked its way up along the œsophagus and trachea, causing a localized empyema at the right apex. Certain viscera were undergoing amyloid change, and there were ulcers in the intestine which Dr. Janeway regarded as a sequela of the hepatic disease rather than as a cause.

Dr. Janeway also showed a heart illustrative of ulcerative endocarditis, with numerous bacteria in the vegetations. He was disposed to think that ulcerative endocarditis was of more common occurrence than was generally believed, and said that it might be unattended by other diseases, such as rheumatism, etc., or it might simulate typhoid fever, typhus fever, etc., the evidence of the real nature of the affection being obscure and perhaps altogether unobserved. In the case of a girl his diagnosis had been based upon hemiplegia, fever, a double murmur at the base of the aorta, and slight systolic and regurgitant murmurs.

Dr. Austin Flint, Sr., asked whether the association of the ulcers in the intestine and the abscess of the liver in the same patient was a mere coincidence, or whether there was a pathological connection.

Dr. Janeway replied that he thought the intestinal ulcers were consecutive to the hepatic abscess, and were probably dependent upon the generally reduced state of the patient's health, and perhaps upon continuous septic poisoning. There were other cases in which the hepatic abscess followed ulceration of the intestine; there might be one or more hepatic abscesses.

Demonstrations of the Three Comma Bacilli were made by Dr. H. M. Biggs, who regarded that of Koch as diagnostic of Asiatic cholera, and as probably causative of the disease, although positive proof of that fact had not yet been obtained. The results of the implantation of the comma bacillus in the duodenum of dogs or other animals did not afford proof of the kind required by the rules laid down by Koch.

An Apparatus for determining the Proportion of Urea in Urine was presented by Dr. Austin Flint, Jr., at the request of Dr. W. H. Greene, of Philadelphia. Dr. Flint demonstrated the difference in the manner of determining the amount of urea in the urine according to Dr. Greene's method and the method proposed by Dr. Doremus.

The President made a few remarks on the illumination of dark cavities, and introduced a gentleman who exhibited a combined electric light and tongue depressor for laryngoscopic examinations, and improvements on the Grenet battery.

Dr. Lincoln said the objection to the tongue depressor combined with the electric light was that the mechanism would probably obstruct the view of the larynx in the mirror. The modifications of the Grenet battery seemed to be improvements.

NEW YORK SURGICAL SOCIETY.

Meeting of May 12, 1885.

The President, Dr. Robert F. Weir, in the Chair.

Observations on Acute Spontaneous or Infectious Osteomyelitis.—Dr. F. Lange read a paper on this subject.

Dr. A. C. Post, a few years ago, saw a boy fifteen years of age who had been stopping at some watering place where he was attacked with multiple osteitis affecting one arm, the opposite forearm, and one thigh near the knee. He was brought to the city within five or six weeks, when he had a large abscess at the upper fourth of the arm. Dr. Post cut down upon the bone, found necrosis of the shaft of the humerus, and removed a piece of bone about 3 cm. in length. The shaft afterward united with the epiphysis and formed a solid arm. The affection in the neighborhood of the knee became so serious as to require amputation.

The case was remarkable for the number of bones affected and the rapidity with which the disease pursued its destructive course.

Dr. A. G. Gerster said that the question raised by Dr. Lange as to whether early operation was capable of preventing necrosis was an interesting one, and he had had a single experience which might throw some light upon the subject. About six years ago a middle-aged woman presented herself at the German dispensary. She had a very high temperature, and her intellect was considered clouded, but when she was aroused from her listless condition she said she had severe pain in the lower portion of one of the arms, and, on examination, the usual signs of acute infectious osteo-myelitis, involving the lower portion of the diaphysis of the humerus, were found, consisting of doughy white swelling, pitting on pressure, and sensitiveness to the touch, etc. The elbow joint was semi-flexed and contained an effusion which was not purulent, as subsequent puncture and aspiration demonstrated. The symptoms were so grave that, having the necessary assistants and the means of moving the patient, Dr. Gerster cut down upon the bone at once, thinking that if the pus could be released symptomatic relief would follow, although he did not expect to prevent necrosis. By a long incision, therefore, he laid bare the posterior portion of the humerus, taking care not to injure the joint or the musculo-spiral nerve, and discovered that then, three days after the inception of the disease, extensive necrosis already existed. The necrosis extended into the epiphyseal body. The periosteum was found infiltrated, and here and there he discovered the bone of a yellowish gray color, and not bleeding when cut.

He mentioned the case to show how early necrosis would sometimes take place in these cases, and he believed that a few hours were sufficient where extensive involvement occurred and where one or more of the larger vessels became obstructed. In the present case a portion of the bone was removed by chiseling and gouging, an antiseptic dressing was applied to the limb, and the patient was sent home. He watched the case for five or six days after the operation, and then the patient was removed to a hospital, where he lost sight of her. But the fever and local symptoms, the pain especially, did disappear after this operative measure, and the woman's general condition was very much improved. It was probable, however, that suppuration followed.

With regard to early interference, it should be borne in mind how difficult an early diagnosis sometimes was. He recalled a case which he saw in consultation where the seat of the disease was in the pelvis, in one of those portions which were not accessible to exact examination. The os ischii was diseased, and the patient was in a typhoid condition. Regarding causation, it might be stated that he had suffered for many years from purulent catarrh of the middle ear. Being in an unconscious condition, the patient was unable to give any account of symptoms, and only a suspicion of osteo-myelitis could be arrived at until the third day, when a very marked and extensive œdema of one of the lower extremities developed, which was especially distinct about the upper part of the thigh close to the pelvis, and then the diagnosis of osteo-myelitis was established. In that case operative procedure was out of the question, as the disease was within the pelvis. The autopsy revealed extensive destruction of one os ischii and a purulent accumulation extending to the sacrum, with purulent infiltration of all the muscles attached to the pelvis and passing down to the thigh.

With regard to the long-continued quiescence of bacteria retained at the point of the primary osteo-myelitic attack, Dr. Gerster mentioned a case observed in the German Hospital, and subsequently treated by Dr. Lange, who followed him in the surgical service. A man apparently had had acute osteo-myelitis at the lower portion of the diaphysis of the femur, when eighteen years of age, which was followed by extensive necro sis and removal of sequestra, and finally cure within three years after the attack. The quiescence continued until he was sixty-five years of age, when the disease was renewed in the old focus. Dr. Gerster found no sequestrum, but a quantity of deciduous, ulcerating granulations.

Secondary Carcinoma of the Axilla; Amputation at the Shoulder Joint; Sudden Development of Hemiplegia with Aphasia; Death.—Dr. L. A. Stimson presented a specimen consisting of a tumor removed from the axilla of a woman forty-five years of age, with a history of cancer of the breast beginning at the age of thirty-five, which had been removed three times—twice by caustics and the last time by the knife—four years and a half before she came under his observation, about the first of last April. She was then a thin, spare woman, in apparently good health, without cachexia, but complained of pain in the axilla, which had steadily increased, and was accompanied with swelling of the right arm. On examination, Dr. Stimson found in the scar, left by removal of the last tumor, one or two nodular masses, and in the axilla, the skin of which was tightly retracted, a cauliflower-like surface, moist but not ulcerated, and adherent to the tumor, which passed upward behind the pectoralis major muscle, and was quite firmly fixed to the deeper parts. There was no evidence of any glandular enlargement above the clavicle, and there were no signs of intra-thoracic disease. The patient was exceedingly anxious to be relieved of the tumor, but Dr. Stimson told her that it was improbable that it could be removed and the arm saved, as it so involved the blood-vessels of the axilla that, if they were left, only a portion of the tumor could be removed, which it was not worth while to do. A fortnight later the patient returned, and asked to have the operation performed, which was undertaken on the 22d of April. The involved skin was circumscribed by an elliptical incision extended down the arm to expose the vascular and nervous bundle; this was traced upward until it was lost in the tumor, and then the dissection was carried over the anterior surface of the tumor, until the nerves and the artery were again found coming out from the upper part of the growth, making it evident that they had passed entirely through the mass. There were present at the operation Dr. Sands, Dr. Post, and Dr. Detmold, and at this stage of the operative procedure a consultation was held, and it was agreed by all that the arm should be removed at the shoulder, which was done, and the artery was tied just below the clavicle. All of the tumor was completely removed. The wound was closed and dressed and the patient was placed in bed, when her temperature was taken and it was found to be normal; the pulse 90, and fairly good. Two hours afterward, the patient having partly recovered from the ether, the pulse suddenly fell to 50, and the patient again became unconscious. The unconsciousness continued through the night, and she constantly moved the left arm, waving it to and fro; in the morning her temperature was 102° F., and her pulse 140. Although conscious, she was unable to speak, and when addressed would point to her mouth, as if to indicate inability to speak. She was hemiplegic on the right side, including the face. The patient remained in this general condition until five o'clock in the afternoon, when she died.

Some of the medical gentlemen regarded it as a case of cerebral embolism, but where the embolus came from Dr. Stimson was unable to say. The patient, however, had given a history of some heart trouble, the exact nature of which had not been ascertained. She had on several occasions had distress in the region of the heart with disturbance of breathing, and it was supposed that she was troubled with cardiac disease. No autopsy could be obtained.

The tumor showed the stumps of the artery and nerves running through it. The loss of blood during the operation was trifling. The sudden fall of the pulse to fifty after she came from under the ether, followed by unconsciousness, with waving of the arm to and fro, followed by hemiplegia and aphasia, pointed very plainly to some cerebral lesion.

In reply to a question by Dr. Gerster, Dr. Stimson said there was no thrombus observed in the subclavian artery when it was divided.

Strapping of the Testicle.—Dr. Post mentioned a case with reference to some details in the mode of procedure. It was one of gonorrhœal epididymitis in which, in the subacute stage, he resorted to strapping the testicle. In isolating the cord for this purpose there was often difficulty in preventing the adhesive plaster from cutting the skin. Lint was usually interposed, and sometimes there was difficulty in keeping it in position. To obviate these difficulties, Dr. Post adopted the following plan: After having the scrotum shaved and the opposite testicle drawn out of the way, he passed a roller bandage, about fifteen to twenty mm. in width and half a metre in length, around the cord and over the upper part of the testicle, and then used a strip of India-rubber adhesive plaster, about twelve to fifteen mm. in width and half to three quarters of a metre in length, passing it spirally over the testicle until he reached nearly the lower extremity of the organ, and then applied the radiated straps in the ordinary way.

The peculiarity of the method consisted chiefly in using one long strip of plaster instead of several short ones, and it facilitated the operation very much and accomplished the object in a much more satisfactory way.

The President raised the question concerning the advantage of strapping the testicle at all. His experience was against its usefulness, and had been such as to lead him to abandon it altogether.

Dr. Post said his experience had been entirely the reverse of that of the president. He did not strap the testicle in the acute stage, but when there was a disposition to chronicity he had invariably found that the pain was promptly relieved and the swelling rapidly subsided when the pressure was made in the proper manner and at the proper time. In the present case, from the time of the first application there was a marked sensation of comfort to the patient, and a marked diminution in the size and hardness of the swelling.

Dr. C. K. Briddon did not favor the strapping of a swelled testicle, and had had much better results by the use of a very thin elastic bandage; in order that it might lie smoothly over the testicle, it must be very thin and not more than an inch wide.

Dr. Post thought it difficult to cover the testicle completely with the elastic bandage. He thought everything depended upon carrying out the details of the procedure, and in that respect he found a number of turns of the narrow bandage to answer a much better purpose than a single strip of lint, which was apt to crowd against the upper part of the tumor, and he had found difficulty in keeping the strip of lint usually employed in place.

The President remarked that the narrow bandage was used in the New York Hospital twenty years ago, the plan of treatment being identical with that mentioned by Dr. Post, except the use of rubber plaster. His impression had been that the swelling would go away nearly as quickly without it as with it, and with less pain.

Dr. Post remembered one case where he was called in consultation—one of prostatic disease where the use of the catheter had caused swollen testicle, and where one of the gentlemen present was a specialist in genito-urinary diseases, and a man of considerable eminence. It was determined to have the patient's testicle strapped, and this gentleman undertook it, and did it in an extremely bungling way, which did no good whatever. If well done and done at the proper time, Dr. Post felt positive that the strapping almost always if not invariably proved useful.

Dr. GERSTER thought the president's remarks entirely correct—that in most of these cases treatment by strapping was unnecessary. He believed that indiscriminate strapping or elastic compression was unnecessary, and therefore harmful. There were, however, some cases in which the infiltration remained stationary, sometimes eight, ten, or twelve weeks elapsing without improvement, and which did not yield so readily to any other method as to compression of the organ. But, in general, he thought strapping of the testicle after orchitis was overdone.

Dr. POST said, Suppose a person found that invariably it was a source of comfort, was there any reason that it should not be done?

The PRESIDENT said it was a procedure which could not always be accomplished satisfactorily even by specialists.

Dr. GERSTER mentioned one complication which might arise from strapping the testicle, namely, a disagreeable eczema of the scrotum, which was more difficult to cure than the infiltration for the removal of which it had been applied.

Dr. L. M. YALE could add his testimony with reference to the frequent occurrence of eczema of the scrotum which rendered it necessary to abandon all local treatment.

The PRESIDENT directed attention to the fact that in the New York Hospital the house surgeons had obtained very good success in the treatment of acute epididymitis by the use of the Paquelin cautery, making half a dozen stripes running over the swollen cord down to the middle third of the testicle.

Dr. BRIDDON said he had heard of like success in the out-door department of the Roosevelt Hospital.

Dr. GERSTER had been unable to ascertain which had been most relieved, the pain, or swelling, or infiltration.

The PRESIDENT remarked that the pain was notably relieved, but the infiltration took the usual time to subside.

Dr. J. C. HUTCHISON had for a number of years treated painful epididymitis by making an incision half an inch in length through the tunica albuginea, and invariably with the result of relieving the pain at once.

Dr. GERSTER had treated these cases by pricking the tunica vaginalis, allowing the fluid to ooze out, this giving great relief from pain.

The PRESIDENT had adopted the method mentioned by Dr. Gerster several times with satisfactory results, and in several instances had carried the bistoury into the tunica albuginea, but had never made an incision in it as mentioned by Dr. Hutchison. He would fear the occurrence of atrophy or eversion of the testis.

Dr. GERSTER thought there was nothing more sure to relieve the pain than the application of five or six leeches to the inguinal region along the cord.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Meeting of May 7, 1885.

The President, Dr. B. F. BAER, in the Chair;

Dr. W. H. H. GITHENS, Secretary.

Secondary Ovariotomy.—The PRESIDENT read the following report of a case, and exhibited the specimen, a small papillomatous cyst: Mrs. S., aged thirty-three, married first at fifteen years of age, became a widow at twenty, and married again at twenty-six. She had one child only, by the first marriage, seventeen years ago. She had enjoyed good health, except that she had always been very nervous, until nine years ago, when she suffered from an inflammation in the pelvic region, which confined her to bed six weeks. She had suffered ever since from profuse and frequent metrorrhagia with paroxysms of left ovarian pain. About four years ago she also began to suffer from hysterical attacks of an epileptoid character. Two years after these nervous manifestations appeared, in the spring of 1883, she noticed that her abdomen was beginning to swell. The growth continued to increase and with it the metrorrhagia, pain, and epileptoid seizures. She also lost flesh rapidly and became weak and bedridden. In January, 1884, ovariotomy was performed. After her recovery, which was slow and despaired of for some time, she enjoyed comparatively good health. The menstrual flow became regular and painless and the convulsions ceased entirely, but in the following September she had another attack of uterine hæmorrhage which lasted three weeks. The pain also returned, in character like that attending the development of the first tumor, but it was now located on the right side instead of the left. In October she consulted the author's friend, Dr. D. J. Miller. The pain and hæmorrhage were at that time very severe, and she was weak and anæmic. On examination, Dr. Miller found an abnormal development, in the region of the right broad ligament, of about the size of an egg. This was closely adherent to and apparently within the folds of the ligament. It was very tender to the touch, but there were no constitutional evidences of acute inflammation. Shortly after this she had a recurrence of the epileptoid convulsions. Treatment seemed to control the symptoms for a time, but from the latter part of December they increased steadily. The constant drain from the metrorrhagia, the increasing violence and frequency of the paroxysms of pain, and the convulsive attacks began to tell in a marked degree upon her health in loss of flesh and strength. In February, 1885, through the kindness of Dr. Miller, the author saw the patient. At that time the growth had attained the size of a large orange; it occupied the right side of the pelvis, displacing the uterus to the left, and seemed to be closely attached to the broad ligament and the uterus. He agreed with Dr. Miller's diagnosis of ovarian cystic disease, and, although the tumor was evidently adherent to the uterus and broad ligament, and therefore probably did not have a pedicle, he advised its removal for the relief of the grave symptoms. The operation was performed April 7th. An incision three inches in length was made, half an inch to the right of the old cicatrix, passing through the body of the right rectus muscle. After clamping all bleeding vessels, he opened the peritoneal cavity and found that the omentum was adherent to the line of union of the first incision, which had been about eight inches in length, and that adhesions also existed between portions of intestine and the situation of the former pedicle on the left of the uterus. The necessity of pushing the omentum and intestine aside to get at the tumor and fear of breaking the adhesions by so doing, together with the small size and deep situation of the cyst, made the required manipulations exceedingly difficult. When he obtained a view of the upper surface of the tumor, it looked not unlike the gravid uterus in color and vascularity. Its outer wall was interlaced with a network of veins, some of them as large as a quill. Exploration with the fingers showed it to be so deep in the pelvis and so closely attached to the uterus, the Fallopian tube, and the broad ligament, that they all seemed to be one mass, the whole attached by a broad surface to the pelvic floor. The prospect of completing the operation was now anything but bright, because of the danger of opening this very vascular wall for the purpose of enucleation. But he began with an attempt to separate adhesions, and, after patient, gentle, but persistent efforts, they began to yield, and he was finally enabled to get two fingers around the posterior surface of the tumor without producing much hæmorrhage. He next passed a small trocar of the aspirator and drew off about six ounces of a straw-colored fluid; this gave a little more room, and he now hoped to be able to remove the tumor entire. With that purpose in view, he endeavored to separate it still farther from its attachments, but so much hæmorrhage occurred that he was compelled to desist. He next very carefully broke the outer wall of the cyst with his finger and proceeded to shell out the lining membrane; but it was so friable that it gave way and his finger entered the cavity of the partially collapsed sac. He found it filled with a papillary, cauliflower-like growth. This he removed to prevent its escape into the peritoneal cavity, where he feared it might propagate by contact if lost and allowed to remain. He then completed the enucleation of the internal surface of the tumor. The thick and vascular external wall was now so thinned and drawn out that it formed a sort of pedicle. This he transfixed and ligatured, cutting away the redundant portion. Then, after thoroughly removing all foreign material, he closed the abdominal incision with seven silk sutures and returned the patient to bed. She recovered promptly from the ether, showing no evidence of shock. At 8 P. M. her temperature was normal and her pulse 126. On the evening of the second day her temperature rose to 101° F., and a free metrorrhagia occurred. The temperature fell within a few hours to 99·4°, and did not afterward rise above 100°. On the fourth day he found union so complete and solid that he removed the sutures. She sat up on the nineteenth day, and had now entirely recovered from the operation. The effect on the hystero-epilepsy and other nervous symptoms would be reported subsequently by Dr. Miller.

It was of vital importance to every woman who had to submit to the operation of ovariotomy that the condition of the opposite ovary should be thoroughly investigated. If it was found to be diseased, even slightly, he thought it should be removed to shield the patient from the danger of a probable second operation. But when such nervous symptoms as existed in this case were present, though the opposite ovary should be found to be healthy, he thought it imperative upon the surgeon to remove it, in the hope of relieving these symptoms. It did not add much to the danger of the operation; indeed, in his own practice it would seem to have had the reverse effect, for he had lost but a single patient from double ovariotomy, though about one third of his cases had been of that character.

Dr. MONTGOMERY took exception to the statement of the advisability of removing the other ovary. The second ovary, even if slightly diseased, might be the source of repeated pregnancies. He had, in one case of ovariotomy, left the other ovary, although it was enlarged and contained several small cysts; pregnancies and the birth of living children occurred subsequently, but there had been no sign of another ovarian tumor. In some cases it might be advisable, but no such fixed rule should be formulated.

Dr. GOODELL had performed one hundred and forty-four ovariotomies, and had had secondary operations in two of them in which the remaining ovary was apparently healthy at the time of the primary operation. In all cases after the menopause he now removed the second ovary, even if it seemed to be perfectly healthy.

The PRESIDENT was much gratified to have Dr. Goodell's indorsement of his opinion about the advisability of removing the second ovary.

Oophorectomy.—Dr. MONTGOMERY reported the case of Mrs. C., aged forty-two, who consulted him in November, 1884, with the following history: She was married, but had never become pregnant. She menstruated once when fourteen years old, and not again until the age of seventeen, when she became regular, but the flow was always preceded for a few days by severe cramp-like pains, which continued during the menstrual period. In her earlier menstrual life the flow was quite free, but afterward it had been scanty. The pain was felt in the back and in each inguinal region. She had an attack of small-pox during her fourteenth year, but otherwise had enjoyed good health until a few years ago. Two years since she noticed that she was losing flesh; her appetite became poor, and she had constant nausea and frequent vomiting. The pain in the back and inguinal regions occurred in the after-part of each day, was exceedingly distressing, and interfered with her rest at night. This pain was greatly aggravated by walking, standing, riding, and by coition. When she came under his care she had lost considerable flesh, had a very irritable stomach, and was never free from pain an entire day at a time. The uterus was retroverted, apparently bound down to a thickened mass posteriorly, and presented a catarrhal endometritis. Pressure upon the fornix vaginæ gave rise to severe pain. Some efforts were made to rinse the uterus by means of tampons of cotton, but they only increased the pain. The patient soon became unable to move about and was confined continuously to bed. The pain was constant during the greater part of the twenty-four hours, so that during the last three months she had had but three nights of uninterrupted sleep, though morphine was given daily. The trouble, from the first, had been ascribed to ovarian disease, and every effort was made to improve her condition preparatory to the removal of the ovaries, but without avail. Her emaciation became extreme, when it was decided to run the risk of the operation. At this time her menses had been absent about two months. The ovaries were removed on the 18th of April. They were situated in Douglas's *cul-de-sac*, behind and beneath the uterus, and were slightly adherent. Both ovaries were enlarged and hard, and presented a number of small cysts. Cysts were found also in the broad ligaments. The wound was closed with silk sutures and dressed with salicylized cotton. Her subsequent comfort was very much interfered with by the pressure from lying, which, in spite of all precautions, produced a small slough over the sacrum. Her highest temperature, 102° F., was reached at 6 P. M. on the 20th. The wound healed by first intention. The sutures were removed on the sixth day. After the third day no anodyne was given, but she slept nine hours each night. All her old distressing symptoms vanished as if by magic, her appetite and digestion became good, and she began to improve in general appearance. There had been no recurrence of the pain since the operation.

Condyloma Urethræ.—Dr. HENRY BEATES read a report of a case which had closely simulated epithelioma in appearance. Mrs. D., a nullipara, aged twenty-nine, sought relief from an intense dysuria which was of a little more than a year's duration. A history indicating an attack of gonorrhœa, while not positive, was probable. A year or two after her marriage she was attacked with either acute cystitis, urethritis, or gonorrhœa, which disappeared, but was followed, after the lapse of two or three months, by frequent micturition and vesical tenesmus. After a few weeks a urethral discharge, purulent in character, was noticed, followed soon after by the development of condylomata on the margin of the meatus urinarius. At the same time the tenesmus and dysuria increased, and, by interference with sleep and the suffering entailed, resulted in impairment of health. Remedies had been prescribed, but no examination of the local condition had been made. When the patient was first seen by the author she was almost constantly harassed with tenesmus, and was suffering intensely. She would retain the urine as long as possible, and void it only when the voluntary control of the bladder was overcome by the vesical contraction. Examination revealed numerous condylomata originating from the margin of the meatus and the interior of urethra. The meatus and its surrounding neoplasms were bathed in a sanguineo-purulent fluid, and the inferior border and membrane of the vestibule were the seat of destructive ulceration. This latter so closely simulated the appearances seen in ulcerating epithelioma that that diagnosis was confirmed by a gentleman who saw the case with him. The external growths were snipped off with scissors, and the bleeding was stanched with nitric acid. After preparatory treatment, anæsthesia was produced, the urethra was dilated, and the condylomata, which were numerous and derived from the urethral membrane only, were removed with the dull curette. A curious point was the distinct demarkation of the morbid condition, which was limited at the vesical terminus of the canal, and the perfect freedom of the vesical membrane from the growths. A solution of chloral, iodine, and carbolic acid was thoroughly applied, and had the effect of stopping hæmorrhage. The ulcerated tissue and a portion of the urethral flow were excised, and the margins were treated with nitric acid. The microscope revealed hypertrophy of the mucosa, with increase of epithelial elements and capillaries. Four years had now elapsed, and no evidences of return had presented themselves. He believed the cause of these condylomata to have been a specific urethritis, which, becoming chronic, by its irritating discharge determined the growths.

Leio-myoma of the Uterus.—Dr. Beates also reported the case of Mrs. M., a German, aged thirty-seven, the mother of one child, whose history was free from neoplastic predisposition. At the age of thirteen the catamenial function was started, and became regular soon. There was congestive dysmenorrhœa for a few months at first. She married at the age of nineteen, conceived two years later, and was delivered at term after a tedious instrumental labor. About a year later a steadily increasing menorrhagia commenced, with leucorrhœa. She was unsuccessfully treated for this for two years, and came under the care of a well-known practitioner of Philadelphia, since deceased, who introduced pieces of lunar caustic into the uterine cavity, and allowed them to remain there until they dissolved. After a few weeks the menorrhagia was relieved, and fair health was enjoyed for more than two years. The hæmorrhage recurring, she again visited Philadelphia, and was treated with the dull curette and intra-uterine applications. She remained free from her trouble for three years, during which time she met with financial reverses, and was subjected to the depressing influence of trouble. She had never been impregnated since the birth of her only child. Hæmorrhage recurring, she entered a hospital in western Pennsylvania, where she remained two years under unsuccessful treatment. All treatment was abandoned, and the hæmorrhages were endured for nearly five years, when threatening death brought her again to Philadelphia. She attended the Nurses' Home Charity, where the speaker saw her when he was an assistant in 1879. Her treatment included iodine to the cavity, ergot and gallic acid internally, and the curette. In October of the same year she placed herself under his care. He was called to see her, and found her in profound syncope. She had occasionally manifested mental aberration, due entirely to her exsanguinated state, and for two or three months was bleeding almost constantly. A laminaria tent was promptly inserted, and a thorough examination made, which disclosed the presence of a neoplasm, occupying the right lateral and posterior uterine wall. Its contour was regular, its base broad, and its consistence that of uterine tissue. Its submucous location was determined, and enucleation effected. The growth was as large as a doubled fist, and required division before it could be extracted. It weighed nine ounces. Profuse bleeding occurred during the operation, and the shock was alarming; reaction occurred, however. Microscopic examination revealed a typical leio-myoma uteri of the telangiectatic type. When last heard from, a few months ago, she was enjoying excellent health.

Three Cases of Ovarian Cystoma were then reported by Dr. Beates.

Case I.—The patient was fifty-one years of age. The sac was aspirated, and thirty-seven pints of typical ovarian fluid were removed, in February. By May the cyst had refilled and the tumor was removed. The room was heated to 80° F., and a steam atomizer nebulizing carbolized water was kept in constant action. The incision was five and a half inches long. The bleeding points were secured before opening the peritoneal cavity. There were no adhesions. The pedicle was dropped. The sutures of silver wire used in closing the abdominal wound were inserted in such a way that the peritoneal surfaces were apposed fully three quarters of an inch below the incised edges. The dressing consisted of adhesive strips, antiseptic gauze, absorbent cotton, and a flannel binder over all. The convalescence was pyrexial, characterized by abrupt exacerbations on the seventh and thirteenth days. The patient sat up on the twenty-eighth day, and made a good recovery. The pyrexial convalescence he attributed to the use of carbolic acid and the heat and exhaustion induced by the absurd custom of maintaining a close, moist, and overheated atmosphere during the operation.

Case II.—The patient was a lady aged fifty-one. The menopause had occurred four years before, and she noticed an abdominal tumor at the time of the change. This would diminish in size during the catamenia. The past two years the suffering had been great, and, while the tumor was of medium size, the disturbance of the digestive functions was as great as that encountered in enormously developed cysts. Sleep for the past four months had been seriously interrupted. In January, 1884, her health not admitting of surgical procedures, and, in consequence of fever and pain in the sac, aggravated by the least movement, and indicating an acute inflammatory condition, he aspirated, with the view of removing what he believed to be the determining cause of the inflammatory attack, over-distension, and also to prevent additional adhesions from forming. He withdrew eighteen pints of a dark chocolate-colored fluid which was typically ovarian but contained a large amount of cholesterin. The result of the aspiration was everything to be desired; the pyrexia promptly disappeared, sleep was secured, the digestive function restored, and a rapid gain of strength established. By April the sac was so filled as to again occasion constitutional disturbance, and ovariotomy was performed. This time he abandoned entirely carbolic acid and the overheated, moist, and oppressive atmosphere. Strict cleanliness was observed, and corrosive sublimate was used with the atomizer remote from the patient. The temperature was maintained as nearly as possible at 70°. In an omental adhesion was found a large artery, which was the chief source of blood-supply to the cyst-wall. The pedicle was found to be a tendinous-like structure. The sac was almost universally adherent in the pelvic cavity, and adhesions were especially strong over the broad ligament and fundus uteri. These were so developed that it was considered by a gentleman present an impossibility to effect removal. In dealing with this complication the fundus uteri was deprived of its thickened peritoneal covering and the parenchyma exposed. This was the source of hæmorrhage, which was stopped by dissecting up flaps on the anterior and posterior aspects and bringing them together over the bleeding surface and securing them with six interrupted silk sutures. After removal of the sac and the introduction of the abdominal sutures, and just as he was about to close the wound, blood swelled up. The cavity was quickly reopened and the bleeding surface discovered after lengthening the incision to a point above the umbilicus and well down over the pubis. The hæmorrhage originated in the separated folds of the broad ligament, and was only stopped after numerous silk ligatures had been applied; between fifty and sixty were required within the pelvis and abdominal cavities before bleeding was well controlled. Failing to secure a bleeding-point in a pocket, Monsel's solution was applied. The operation occupied two hours and thirty-five minutes. One pound and a half of ether was consumed. The temperature of the patient after the operation was over was depressed, and attention was here called to a point, which was the determination of the degree of depression of temperature to which it was safe to subject a patient during a surgical procedure. In ovariotomy, where the securing of bleeding areas was an essential to success, the import of this would easily be appreciated, and, if a definite knowledge could be established, there would not be any fatal cases due to septic complications, the direct result of oozing that might be prevented. Reaction was prompt. Dressing was applied as before. Tympanites developed during the next twelve hours, and to a degree that jeopardized life. This was overcome with the faradaic current, antiferments, and the rectal tube. There was no pyrexial complication, and recovery was without further untoward symptom.

Case III.—A young married lady, aged twenty-five, suffered from an ovarian tumor which developed within a period of nine months. The cool room, shower of carbolic acid, and strict cleanliness characterized the conditions of the operation. Corrosive sublimate was the antiseptic employed. The operation was uncomplicated, and recovery was prompt.

Dr. Goodell complimented Dr. Beates on the case requiring so many ligatures, as nothing was so demoralizing as free hæmorrhage as a complication in abdominal surgery. He criticised the three-fourths inch application of peritoneal surfaces, as it was likely to fold into the wound when it was closed and cause faulty union. He inquired about Dr. Beates's experience as to hernia after abdominal section. He doubted the necessity of the rule to avoid section of the recti muscles. If, in inserting stitches in closing the wound, good coaptation of the muscles was secured, hernia would probably be less likely to happen. He preferred silk sutures to metal ones for closing the abdominal wound, as they might all be inserted, and sponges used to catch any bleeding, before any of them were closed.

Dr. Montgomery remarked that some operator (name forgotten) had proposed section through the recti muscles for the express purpose of securing good coaptation and sound union. He had tried this method and had had good results and no hernia.

Dr. Parish had passed sutures through the recti muscles and had obtained good results and no hernia. He used silk, and had not been troubled with suppuration along the suture tracks.

The President thought that if an operator once used silk sutures he would not again use silver wire. In the case he reported this evening, the incision was necessarily through a recti muscle. He had perfect union and no suppuration.

Dr. Beates had never had a hernia resulting from abdominal section. In the second case violent retching and vomiting caused him great anxiety, but the sutures held firmly and union was firm throughout. In the second and third cases silk sutures were used, but pus was found in their tracks in six or seven days.

Papillary Ovarian Cysts.—Dr. Goodell exhibited specimens removed from three women, with the following histories: The first one was removed on March 29th, at the University Hospital, from a woman who had borne two children by her first husband, but had not conceived since her second marriage seven years ago. The cyst was of the right ovary, weighed about twenty pounds, and its lower portion had to be enucleated from the broad ligament which overlapped it. It had burst a few hours before the operation, and the abdomen was filled with a dark, syrupy fluid. The special point of interest was the papillary growths found in large numbers, both on the inside and the outside of the cyst-wall. The broad ligament and pelvic peritonæum were also studded with them, and the left ovary, otherwise healthy, was so bound down and enveloped with them as to make its removal impossible. The woman's convalescence was uninterrupted, yet Dr. Goodell could not but believe in the malignancy of the cyst, and he was disposed to attribute the diffused patches of papillomata to infection from some previous rupture of the cyst-wall, of which, however, there was no history.

The next two cases were operated on at his private hospital on the same day, April 12th, and both did well. In each one both ovaries were affected with papillary growths, while in one of them, the right, the cyst had evidently burst some weeks previously, as the abdomen contained a dirty fluid, and, apart from the history of sudden abdominal pain, the ovary was represented by a mass of papillomata of about the size of one's fist, around the base of which were the remains of the cyst-wall. These two cases he deemed benign because there seemed to be no infection outside of the ovary. They were probably cases in which the cystic degeneration began at the hilum of the ovary.

The President remarked that these growths were found in almost all small ovarian cysts, especially when they were enveloped in the broad ligament. They were not malignant but were of very rapid growth, and were accompanied by pain and local congestion.

Dr. Parish had found in one of his patients an ovarian tumor as large as a man's head. The other ovary was the size of a hen's egg, and its walls had undergone calcareous degeneration; the pedicle was short and calcareous; suppuration followed its removal, and a fistulous opening was left, probably depending on the presence of the calcareous matter.

Lithotomy.—Dr. Goodell also exhibited a calculus weighing over an ounce and a half, which he had removed a week ago. The lady was seventy-four years old, and was also aphasic and paralyzed from a stroke of apoplexy received five years previously. Ether was therefore given with extreme caution, and fortunately no bad results followed its use. Finding the stone to be a very large one, Dr. Goodell decided not to crush it but to remove it by lithotomy. This was accordingly done, but a good deal of difficulty was experienced in coaxing the stone through the opening. On account of the cystitis present, the opening into the bladder was left unclosed, except at those points where sutures were introduced merely to stop troublesome hæmorrhage. The relief was immediate, and the convalescence uninterrupted.

The Obstetrical Forceps as a Speculum and Protector to the Vagina in Operations upon the Fœtus.—This was the title of a paper by Dr. Joseph Price and Dr. G. G. Faught, read by Dr. Beates. Even a casual examination of the records of gynæcology showed them to be scored over and over again with cases the sad history of which was the result of the reckless and unintelligent use of the obstetric forceps. The late Dr. John S. Parvey gave the mortality of ovariotomy as 37½ per cent. (according to Dr. D. H. Agnew, "Surgery," Vol. ii, page 821), "a fatality quite as great as that resulting from Cæsarean section." As a careful perusal of the writings of Schroeder, Tait, and others showed how often this operation, when styled "successfully done," was followed by genital fistulæ, extensive sloughing, etc., we had good reason to believe that mutilations and contusions of the soft parts were no mean factors in accounting for the heavy mortality. Foreign reports indicated that the mortality was much greater abroad than in this city. A late Irish obstetrician reported six consecutive deaths after ovariotomy. Though the conventionalities and artificial modes of living in the large cities of America might render necessary the more frequent performance of minor operations in childbirth, the more successful results must be attributed to the generally conservative teachings of our schools with reference to manipulations in deformed pelves. It was to be regretted that exceptions to such teaching existed. A celebrated New York teacher, who boasted "three thousand cases and a year at Vienna," recorded one of his cases in which the cephalotribe slipped eight times, the operation being completed with a blunt hook. Cases were known in which the cervix has been entirely cut away, and in which, in trephining the base of the child's skull, the mother's sacrum had been sawn into. With such records before them, the writers felt that no apology was needed for presenting for the discussion of this society a new and wise use for the forceps as a protector of the soft parts, and for fixation of the head during operations upon the fœtus. A justly celebrated writer and teacher of this city, after the publication of a paper advocating this measure in the "Medical News," August 2, 1884, called attention to the fact that the idea was not a new one, as shown by an extract from "Blundell's Principles and Practice of Obstetrics," published in 1834. The writers were well aware that obstetrical works reported cases in which the head was perforated after ineffectual traction had been made with the forceps without removing the instrument and the delivery subsequently accomplished safely (Hodge, "System of Obstetrics," pp. 252, 272, etc.). The use of these previously reported cases was, however, clearly accidental. Indeed, the profession seemed to have lost sight of the fact that the primal use of the speculum was to enable the operator to use craniotomy instruments safely and expeditiously. Abulcasis so used it in the eleventh century (quoted by Schroeder). The design of this paper was to claim the *intentional* use of forceps as a protector of the soft parts of the mother, and for fixation of the head. The only previous intentional use of the forceps in such manner known to the writers was some years ago by Dr. De Forest Willard, a member of this society. In using the forceps after the manner referred to in the title, when the destruction of the fœtus was clearly indicated, a pair of forceps, as wide in the blades as the diameter of the pelvis would permit, was applied in the ordinary way, and used for fixation and compression of the head while the vault was being perforated and broken or folded up. The retraction of the tissues by the instrument permitted safe and expeditious work. If preferred by the operator, the blades might be separated to their respective sides of the pelvis and held by assistants, recrossing and locking them to make compression and traction. Cases were cited supporting the views advanced. The Hodge and Davis forceps was used in five of the operations—in the last two a special forceps designed by Dr. Price, and made for him by Mr. Kolbe, having the following peculiarities: Thin, flat blades, one inch and three quarters wide, to allow of easy application in markedly deformed pelves; the Hodge curvature for use at the superior strait; the absence of fenestræ to increase the strength of the blades for powerful compression and traction, and to afford more ample protection in operative procedures during perforation, etc.; a greater cephalic curve, so that the points came in apposition to prevent slipping; a screw at the end of the handles, to cause greater compression than could otherwise be exerted.

Dr. Beates also exhibited another forceps designed by Dr. Price, one blade of which terminated in a thin, flat, sharp-pointed perforator; this was covered with a leather shield to protect the soft parts during its introduction; this shield was not removed, but the perforator cut through it when it was pressed firmly against the fœtal cranium. The other blades terminated in a blunt screw which was intended to be screwed into the spinal canal of the child for traction.

Alexander's Operation.—Dr. W. H. Parish gave a sketch of the history of Alexander's operation, and reported that on December 30, 1884, he performed the operation on a patient in the Philadelphia Hospital. Her general condition was not very favorable for any operation. She was about forty years of age, of small stature, and in a debilitated condition. She suffered with a chronic bronchitis; the uterus was in a condition of retroflexion and retroversion, and was also so prolapsed as to approach ordinarily the vaginal outlet, and, when engaged in severe labor, protruded, according to the patient's statement; but the latter statement may have been erroneous, as there was a rectocele of about the size of a hen's egg. There was also an old laceration of the perinæum, one that extended nearly into the rectum. He performed the Alexander operation because of the posterior displacement. He did not expect to remedy, except to a limited extent, the prolapse of the uterus, or to get rid of the rectocele at all. He expected that a subsequent operation would be performed for the restoration of the perinæum. After cutting down upon the right external ring, he found no difficulty in recognizing the terminal portion of the round ligament or in causing it to run through the canal when drawn upon by the finger; it was about the size of a crow-quill and did not suggest strength; it appeared in a condition of atrophy from the stretching to which it had long been subjected. The left ligament was also easily recognized, but it would not run through the canal. It could not be drawn out, and doubtless was adherent to the canal, and also held in the pelvis by abnormal adhesions dependent upon a pelvic cellulitis of old date. The right ligament was drawn out about two inches and cut off. The left one was shortened about half an inch. While the ligaments were being drawn out the uterus was held anteriorly in the median line by means of a uterine sound. The round ligaments were then stitched to the columns of the rings and the abdominal incision closed with silver wire and covered with iodoform dry dressing. A Hodge pessary was introduced and the patient placed in bed on her back with thighs flexed. The bronchitis was aggravated by the ether, and severe coughing became very troublesome. The concussion of the coughing would at times force out the pessary. The abdominal adhesions healed in about three days by granulation, after limited erysipelas had appeared. The erysipelas was not severe, and was probably dependent upon hospital influences. The posterior displacements were partially relieved, but he did not think the benefit secured to the patient amounted to a great deal. He had seen but one other Alexander operation reported in this country. He thought the value of the operation should be tested. He was not enthusiastic in its favor, but was willing to give it a trial. Certainly it was not difficult; perhaps the chief difficulty consisted in recognizing the round ligaments, but they were more easily found in the living subject than in the cadaver. There was no danger of hæmorrhage, and apparently no danger of traumatic peritonitis. Probably the only source of danger was from septic infection, and this, under favorable surroundings, could scarcely occur.

The President thought that in many cases the operation would be valuable—for instance, cases of retroflexion without adhesions, and those in which the pessary would get into the angle of the flexion and lose its usefulness, and in which a stem would not stay in place. It would be less dangerous than Tait's plan of laparotomy and stitching the uterus to the abdominal wound.

Dr. Parish remarked that Dr. Alexander recommended that both round ligaments should be drawn out before either of them was stitched. He recommended it for such cases as the president described, but did not limit its usefulness to such. He also thought it would prove a valuable auxiliary previous to operations for the cure of rectocele, cystocele, and lacerated perinæum.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of October 21, 1884.

The President, Dr. William M. Polk, in the Chair.

The Symptomatology of Rickets.—Dr. A. Jacobi read a paper with this title, which he reserved for publication.

The Durability of Celluloid Pessaries.—Dr. F. P. Foster presented a pessary composed of copper wire covered with flexible celluloid, which had been worn constantly for more than two years, except at night, and was still in very good condition. The question of the durability of the material had been raised at a former meeting, and he thought this case, and a number of others in which he had used the celluloid pessary, showed that the instrument could be worn a long time without material change.

The Question of the Propriety of Puncturing the Abdomen to relieve Tympanitic Distension.—The President had inferred from the reading of the minutes of the previous meeting that the members had considered puncturing the abdominal cavity for the relief of tympanites of doubtful propriety. He thought there were certain cases in which, other measures having failed, this procedure should be resorted to—for instance, in a certain case in which he had performed hysterectomy, the patient certainly would have died from pressure upon the vital organs from an over-distended abdomen had he not made several punctures of the abdominal parietes. The confined gas was about half an hour in escaping, and the measure was regarded as a risky one, but the circumstances justified it, and the patient recovered.

Henry J. Garrigues, M. D.,
Benjamin F. Dawson, M. D.,
Frank P. Foster, M. D., *ex officio*,
Committee on Publication.

Meeting of November 18, 1884.

The President, Dr. William M. Polk, in the Chair.

Oophorectomy for Dysmenorrhœa.—Dr. Bache McE. Emmet presented a specimen, and related the history of the case. [See page 244.]

Dr. James B. Hunter was glad to hear Dr. Emmet lay stress on the importance of leaving the healthy ovary in this case. He had had two cases in which he had hesitated as to the propriety of removing ovaries, and had decided not to interfere with them. One of the women had subsequently had a child, and another two children.

The President asked if it was always possible to decide simply from the gross appearances whether an ovary was diseased or not.

Dr. Emmet replied in the negative, and added that recent authorities, especially Martin, were of the opinion that, if there was any doubt, it was better to remove the ovary.

A Menstrual Uterus.—Dr. Emmet also showed a uterus that had been removed from the body of a patient who had died of peritonitis while menstruating. At the autopsy, the pelvic organs were found to be intensely congested and the uterus retroflexed. A blood-clot, of the size of a walnut, was found in the uterine cavity. The interior of the organ was lined with a delicate membrane, which, on microscopic examination, was found to be composed of epithelial cells in a state of fatty degeneration. The left ovary contained a recent corpus luteum.

Dr. H. T. Hanks thought that the congested appearance of the pelvic organs might be explained by the uterine displacement.

An Operation for the Cure of Retroversion of the Uterus.—Dr. Hunter stated that, about three weeks ago, he had performed an operation for the cure of retroversion by denuding a surface on the posterior vaginal wall, and another on the posterior lip of the cervix, and then bringing the two together. He was then under the impression that this procedure was original with himself, but he had since received a letter from Dr. O. E. Herrick, of Grand Rapids, Mich., in which that gentleman stated that he had for several years practiced that method with success.

Dr. T. Addis Emmet described an operation which he had seen performed by Dr. Alexander, of Liverpool, for the cure of retroversion by shortening the round ligaments. Dr. Emmet thought that such an operation as Dr. Hunter had mentioned could not be successful, since it involved too much traction on the bladder. In all of these operations the parts became so stretched that the procedure was useless.

The President asked what Dr. Alexander considered as the limit of shortening of the round ligaments in his operation.

Dr. Emmet replied that Alexander drew the ligaments out until an assistant, who kept his finger in the vagina, ascertained that the uterus was in proper position. In the operation which he saw, fully two inches of slack must have been removed.

The President remarked that he regarded the operation as a rational one.

Dr. Emmet said that he had held for many years that simply anteverting the uterus was not enough to keep it in place.

Ovariotomy Four Weeks after Delivery.—Dr. Hunter had had a patient who was delivered at full term the first week in October. Her abdomen was very large at the time of confinement, and grew no smaller afterward. Her attendant stated that the delivery had been rapid and easy. On the 5th of November Dr. Hunter removed a cyst weighing upward of seventy pounds—one of the largest that he had ever seen. The patient made a good recovery.

Prolapse of the Urethral Mucous Membrane.—Dr. T. Addis Emmet reported the case of a patient who had entered his service at the Woman's Hospital, complaining of constant micturition. She had had a number of growths removed from the urethra. At the last operation a red-hot knitting-needle had been applied to the mucous membrane of the urethra, and a condition of stenosis had resulted. The urethra had been inverted back into the bladder, because of the cicatrix at the meatus, which prevented it from prolapsing externally. The cicatrix was dissected off, a button-hole made in the urethra, and the excess of mucous membrane brought into the wound. After some weeks the artificial fistula was closed, and the patient was now quite well. The speaker was convinced that such a condition of prolapse was common, and that it was due to sliding of the entire mucous membrane, from the neck of the bladder down to the meatus, before the pressure of the child's head.

Dr. A. Jacobi asked about the relative frequency of real polypi and polypoid prolapse of the mucous membrane. He believed that polypi in the urethra could be treated as they were elsewhere, by simply twisting them off.

Hypertrophic Elongation of the Cervix Uteri.—Dr. B. F. Dawson reported a case in which he had made this diagnosis. The patient's only complaint was that something protruded constantly from her vulva. The vagina was found capacious, and the cervix much elongated. The fundus uteri was in its normal situation. The probe showed the depth of the canal to be five inches and a half, of which only an inch and a half belonged to the body of the organ. When the patient stood up, the cervix protruded from the vulva to the extent of two inches.

Dr. T. A. Emmet asked if she had been examined in the knee-chest posture, to ascertain its effect on the uterus. Receiving a negative reply, he said that he thought that that test would have shown that the case was really one of prolapse. In his opinion, there was generally atrophy of the cervix in such cases, instead of hypertrophy.

Dr. Colin Mackenzie asked if this elongation was generally supra-vaginal or infra-vaginal.

Dr. Emmet thought that, if ever there was any hypertrophy, it was confined to the supra-vaginal portion. By amputating such a cervix, we sometimes set up a cellulitis, and thus indirectly effected a cure. Of some twenty cases that had come under his care in the last twenty-eight years, he could recall but two or three in which the elongation had been real.

Dr. Hanks asked how Dr. Emmet would treat these cases.

Dr. Emmet said the question was a difficult one to answer satisfactorily. In some cases he had amputated the cervix, with and without results; in some he had used stem-pessaries; he had discharged a few of the patients as incurable; and in still other cases spontaneous cure had followed. In the few instances in which he had not been able to obliterate the apparent elongation of the vaginal portion by the use of a little force, the condition had evidently been due to some inflammatory process. He would not be understood to say that hypertrophic elongation did not exist, but it was rare.

Dr. E. L. Partridge wished to know what changes would take place in such a cervix if pregnancy occurred.

Dr. Emmet knew of no such occurrence. Nearly all his own patients had been unmarried. In case of pregnancy, nature would probably restore the parts to a better state.

Dr. Partridge alluded to a case that had come under his own observation in which there was but little shortening of the cervix during pregnancy. The condition proved very embarrassing in the induction of premature labor, done on account of placenta prævia, and then the child's head had to be dragged through a long, narrow canal. After labor, the cervix returned to its natural state.

The President thought there were two interesting points in Dr. Partridge's case: 1. The probability of an enlargement of the uterine cavity, which agreed with a commonly received theory of the causation of placenta prævia; 2. The absence of marked shortening during pregnancy.

Laparotomy under Cocaine Anæsthesia.—The President related a case of this sort. The patient was a man, who had a suppurating hydatid cyst of the liver. [The history of the case has been published elsewhere.]

Henry J. Garrigues, M. D.,
B. F. Dawson, M. D.,
Frank P. Foster, M. D., *ex officio*,
Committee on Publication.

Meeting of December 2, 1884.

The President, Dr. W. M. Polk, in the Chair.

An Obstetrical Forceps.—Dr. E. L. Partridge presented an obstetrical forceps which resembled that of Dr. Alexander S. Hunter in the manner in which the handles of the instrument were locked, and in general form that of Dr. Garland, of Boston. The object of the instrument was to meet the needs of a certain class of obstetrical cases in which it was not convenient to make use of a forceps with long handles. The blades of the instrument presented were nearly as long as those of the ordinary forceps, but were lighter, the oval was more marked, and the handles were much shorter and were firmly locked when grasped by the hand of the operator, so as to preclude the possibility of slipping and of compression of the cranial bones. It was intended for use in those cases in which labor was being somewhat delayed, the woman suffering considerable pain, and the head arrested, but not firmly impacted, a moderate distance from the vulvar outlet. In such a case the instrument could be employed without exposing the patient, and even without turning her in bed, thus avoiding apprehensions of a grave operation. If necessary, the forceps could be used in cases in which the head was engaged high up, but it was not intended as a substitute for the long-handled forceps, except in the class of cases mentioned.

Dr. H. T. Hanks thought that the reasons given by Dr. Partridge for the use of the small instrument were exceedingly pertinent. There were many cases in which, although labor would doubtless terminate normally if allowed to continue, we could save the woman an hour or two of suffering, without injury to her or to the child, by the use of such a forceps, which did not make it necessary to place the patient in the obstetric position or use ether. He had been accustomed to use a similar forceps in this class of cases, without turning the woman on the bed, without an anæsthetic, and without sending for assistance.

The President had employed Sawyer's forceps for delivering in the class of cases referred to by Dr. Partridge, using it in the manner described by him and by Dr. Hanks, and he regarded the practice as entirely justifiable, as it involved no risk, spared the mother much pain and exhaustion, and avoided the semblance of a grave operation. He recognized advantages in the handles of Dr. Partridge's instrument. Of course it was not intended to take the place of the long-handled forceps in cases in which great traction force was required. One might suppose that the question as to the propriety of the use of these instruments in this class of cases was entirely settled, but he would venture to say that there was no other question aside from that pertaining to antiseptic midwifery regarding which there was a greater variety of opinion among obstetricians. He said this because he frequently met with people even in the city who manifested great horror at the suggestion of instrumental delivery, believing that instruments should be employed only in extreme cases.

Dr. Hanks wished further to emphasize the importance of the obstetrician exercising his skill toward shortening the duration of pain by the use of the forceps in cases in which natural delivery would be unnecessarily postponed from an hour to three hours by inefficient pains. This question in city practice would doubtless be decided within a few years in favor of interference on the part of the physician, but in the country there probably would always remain more or less prejudice against the use of the forceps except in extreme cases.

The President said that, inasmuch as the subject of the use of the forceps was under discussion, he wished to say a word in favor of the Tarnier forceps as opposed to the various instruments which had been brought forward as substitutes. About two weeks ago he delivered a woman in her third confinement. Her first labor had lasted about twenty-four hours, and the child was saved. Her second labor lasted about twenty-six hours, and the child was born dead. He first saw her after she had been in labor for some hours, and, from the condition of the abdomen, from the fact that he could feel no presenting part, and from the additional fact that there was the glove-finger projection of the bag of waters, he concluded that there must be some obstruction to delivery. The patient was anæsthetized, and, on introducing his hand into the vagina, he readily determined the existence of contraction of the pelvis at the superior strait, the antero-posterior diameter being estimated to be a little less than four inches, apparently from unusual projection of the promontory of the sacrum. The transverse diameter seemed to be normal. He pursued the course which he usually adopted in such cases, viz., deferred interference for eight or ten hours for the purpose of allowing as much dilatation and molding of the child's head to take place as possible, and then put on Tarnier's forceps. He thought that this instrument gave a much more direct line of traction—a line which more nearly coincided with the axis of the superior strait than could have been obtained with any of the modifications of the instrument which he had seen, and he believed that there would have been failure to deliver, or at least loss of the life of the child, had any other forceps been employed. Again, he believed that the compressive power of the Tarnier forceps was, by virtue of its arrangement, greater than that possessed by any of the substitutes, and this was an important fact in obtaining a firm grasp upon the head before it had become engaged in the pelvic canal, where the bony walls would aid in retaining the blades in position.

Dr. Hanks asked whether in the occipito-posterior position rotation could be allowed to take place without removing the forceps.

The President replied in the affirmative, and said it often happened, in cases requiring instrumental delivery, that any delay in waiting for rotation of the occiput anteriorly would endanger the life of the child, and, in order to hasten delivery, it was better to continue the use of the forceps, although at some risk to the perinæum. He further remarked that he believed rotation took place rather as a result of resistance offered by the floor of the pelvis as a whole than by any special prominences.

Dr. Partridge remarked that it had always seemed to him unwise to try to induce rotation by means of the forceps in cases of occipito-posterior position, but what should be done was not to prevent rotation if it was inclined to take place during the use of the forceps.

The President agreed with the remark made by Dr. Partridge.

Dr. F. P. Foster inquired of the president how often he found delivery to take place with the head of the child in the occipito-posterior position.

The President replied, Very rarely, and he believed it never occurred except in cases in which the uterus failed to contract well. He perhaps had seen three or four cases in which the child was born with the occiput forward.

Dr. Hanks could recall but one case in which the head was born in the occipito-posterior position, but he believed the number of cases of occipito-posterior position in the commencement of labor was much greater than that usually given in the books; from his recent observations he thought the proportion was nearly fifty per cent.

Henry J. Garrigues, M. D.,
B. F. Dawson, M. D.,
Frank P. Foster, M. D., *ex officio*,
Committee on Publication.

Miscellany.

An Honor to a New York Surgeon.—The King of Greece has recently conferred on Dr. Morris H. Henry, of New York, the Golden Cross, and created him an officer of the Royal Order of the Savior. The honor was conferred for services rendered to medical science, on the recommendation of the faculty of the University of Athens.

The New York State Medical Association.—The Third District Branch will hold its first annual meeting at Syracuse on Tuesday, June 9th. Papers are expected to be read as follows: "On the Varying Degree of Severity of Symptoms in Strangulated Inguinal Hernia," by Dr. Frederick Hyde; "The Ordinary Treatment of Nasal Catarrh," by Dr. Nathan Jacobson; "A Puzzling Case of Abdominal Tumor," by Dr. W. W. Munson; "Tubercular Consumption never Inherited, always Produced," by Dr. H. D. Didama; "Operation for Deviated Septum Nasi," by Dr. F. W. Ross; "Recent Advances in Dermatological Therapeutics," by Dr. F. W. Putnam; "Pistol-Shot Wounds of Kidney and Lung," by Dr. George P. Merritt; "Perityphlitis," by Dr. Theron A. Wales; "Typhoid Fever as we see it in Central New York," by Dr. H. L. Elsner; "Swing-Suspension in Cases of Deformed Spine," by Dr. C. L. Squire; "Diabetes," by Dr. G. C. Smith; and "Puerperal Insanity," by Dr. C. F. MacDonald.

The Statue of Bouillaud was inaugurated at Angoulême on the 16th inst., as we learn from the "Gazette hebdomadaire de médecine et de chirurgie."

The Statue of Pinel, given to the municipality of Paris by the Société médico-psychologique, will be inaugurated by the society, says the "Progrès médical," on the 13th of July. It has been set up in the Place de la Salpêtrière.

The Berlin Medical Faculty.—The "Gazette médicale de Paris" states that Dr. Robert Koch has been made ordinary professor of hygiene, with the title of medical privy councilor.

The French Association for the Advancement of the Sciences will hold its fourteenth session at Grenoble, as we learn from the "Union médicale," from the 13th to the 20th of August, under the presidency of M. Verneuil.

THERAPEUTICAL NOTES.

Troches of Hæmoglobin.—Benczur ("Dtsch. Med.-Ztg.") reports upon the hæmoglobin treatment as carried on in von Ziemssen's clinic. Troches were prepared from ox-blood. The daily amount of hæmoglobin given was about twenty-five grains. Not only was there a marked improvement in the cases of anæmia thus treated, but no gastric disturbance was observed, such as follows the administration of large doses of iron.

Parthenine.—Tovar, of Havana ("Crón. Méd.-Quir."; "Therap. Gaz."), has employed this alkaloid in several cases of intermittent fever, as well as in neuralgia of malarial origin. He gives about a grain and a half every hour until ten doses have been taken. Relief is experienced within a few hours.

Valerian in the Treatment of Diabetes Insipidus.—According to a writer in "Schmidt's Jahrbücher" ("Therap. Gaz."), valerianate of zinc and tincture of valerian, if administered for a long period, exercise a favorable influence over this disease.

Oil of Thyme in Rheumatism.—The "Bulletin général de thérapeutique" gives the following formula:

Essential oil of thyme	each, 10 grains;
Soap	
Powdered althæa	q. s.

Divide into six pills. Two to be taken before each meal.

The Inhalation of Defibrinated Blood.—Fubini, of Palermo ("Centralbl. f. d. med. Wissensch."; "Dtsch. Med.-Ztg."), has performed numerous experiments on both healthy and anæmic subjects for the purpose of determining whether defibrinated blood can be introduced into the system through the medium of the respiratory tract. He employed a mixture of twenty parts of defibrinated ox-blood and eighty parts of a 0·75-per-cent. solution of salt. This was introduced into the lungs by means of an atomizer. No irritation was observed, and the pulse and respiration were unaffected. After a number of inhalations, anæmic patients improved decidedly, and the number of the red blood-corpuscles was notably increased.

A Laxative Mixture.—Labbée ("Union méd.") suggests the following:

Sublimed sulphur	12 drachms;
Powdered senna	5 "
Essence of lemon	5 grains;
Syrup	q. s.

Dose, from two drachms to an ounce.

THE NEW YORK MEDICAL JOURNAL, June 6, 1885.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

By AMBROSE L. RANNEY, M. D., New York.

Lecture I.

In the diagnosis and treatment of nervous diseases, no agent is more generally applicable than electricity. Its brilliant and often instantaneous effects and the prevalent belief among the laity that electricity is practically identical with the vital forces of the human body have conduced largely to the general use and *frequent abuse* of this important agent.

Thousands of electric batteries are sold yearly by the various manufacturers to persons both in and out of the medical profession. Many who buy them are utterly ignorant of the principles of their construction, and equally so of the indications for their use. A very large majority of the medical profession possess only a faradaic battery or a magneto-electric machine. They employ such a battery upon every case which to their mind requires electricity. A few, in our larger cities, own a galvanic battery; but, as a rule, those who do so are unable to repair it themselves when the connections become oxidized or when it fails to act from a multitude of other causes. In my experience, it is very uncommon to meet a medical practitioner (outside of those who are specially interested in neurology) who thoroughly understands electro-physics and many important facts relating to the uses for which special forms of batteries are best adapted. I have deemed it wise, therefore, to include in this course of lectures a terse and practical statement of the more important facts which should be mastered before the treatment of disease by electricity is attempted, and to shed some light upon the forms of current which are indicated in the treatment of many of the nervous diseases commonly encountered. I shall include in these remarks some practical suggestions respecting the selection of batteries and the care of them. The uses of electricity in diagnosis, as well as its therapeutical properties, will be also presented in as concise a form as is comportable with clearness of statement.

Part I.—Electro-physics.

Under this heading we shall first discuss the varieties of electric currents which may be produced (the faradaic, galvanic, magneto-electric, and static). We shall then consider the construction of a galvanic cell and its many modifications. It is important that you know the principles of construction of the various galvanic cells offered to the profession for medical uses, as well as the advantages and disadvantages of each as a part of a medical outfit. In the third place, you should be made familiar with many new terms which are commonly used to-day in electrical literature, and also the application of Ohm's law to electrical problems. Finally, you should acquire a familiarity with the many attachments to a battery. These are essential to its proper use, and their purposes should be well understood. Under this heading I shall give you some practical hints respecting the selection, care, and repair of an electrical outfit for medical purposes.

VARIETIES OF ELECTRIC CURRENTS.

A few of the more important facts relating to this agent (which we are constantly called upon to employ in the treatment of various types of disease) should be thoroughly understood by all who intend to use it. Time will not permit of a detailed description of the different properties of electric currents. These can be acquired from any of the standard works upon physics. It is necessary, moreover, that the points presented here should be briefly and simply stated.

The GALVANIC CURRENT (called also "*voltaism*," the "*battery current*," and the "*constant current*") is one which is derived by chemical decomposition or heat from one or more pairs of elements directly. When the body is placed between two electrodes connected with such a battery in action, the current traverses the part of the body embraced between the electrodes before it returns to the battery—starting at the positive pole (the anode), circulating through animal tissue, and returning to the negative pole (the cathode). The polarity remains unchanged under all circumstances.

Muscular contractions are produced only when the current is closed or broken, or when its intensity is increased. A very weak current fails to produce muscular contractions. In connection with the description of the tests employed in the diagnosis of nervous diseases ("Med. Record," March 22 to June 28, 1884), suggestions have been made by me which may be reviewed in this connection with advantage.

By peculiar arrangements of the elements of a battery, the galvanic current can be modified as follows: (1) To produce a white heat (cautery battery); (2) to insure chemical changes in living tissues (electrolysis); and (3) to aid in many of the mechanical arts, such as electro-plating, electric lighting, telegraphy, etc.

The FARADAIC CURRENT (called also the "*induced*" or "*interrupted current*") differs from the galvanic in that it is an induced current of high tension, which is produced by the magnetizing and demagnetizing of a bar of soft iron or a bundle of soft-iron wires by means of a galvanic current.

The circuit of the generating cell is made to pass through a coil of insulated wire, known as the "*helix*," which surrounds the iron to be magnetized, *but it does not itself pass to the electrodes and thus to the patient.**

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* This is a point which can not be too strongly impressed upon the minds of the profession. Its accuracy can be readily proved. If the binding-posts of the primary coil of a faradaic machine be united by means of a large copper wire, the current generated in the galvanic cell which runs the interrupter will pass through the wire rather than through the helix which surrounds the iron core, because the wire affords less resistance. The interrupter will then remain stationary, as the iron core is no longer magnetized. Again, the interrupted or faradaic current has no chemical properties. This would not be the case if the current of the generating cell passed to the binding-posts of the faradaic machine. Finally, the external resistance of the human body

When the current of the generating cell passes through the helix, the soft iron is magnetized and draws the interrupter in contact with it.* This breaks the circuit and demagnetizes the iron. The interrupter is then returned to its former place by a spring. This step reconnects the generating cell with the helix, and again allows the iron to be magnetized. The interrupter is again drawn in contact with it. Thus the current is constantly broken and restored by a simple device known as the "*interrupter*," or "automatic circuit-breaker." An *induced current within the iron core* of the helix is thus produced. This is the current which passes through the electrodes to the patient.

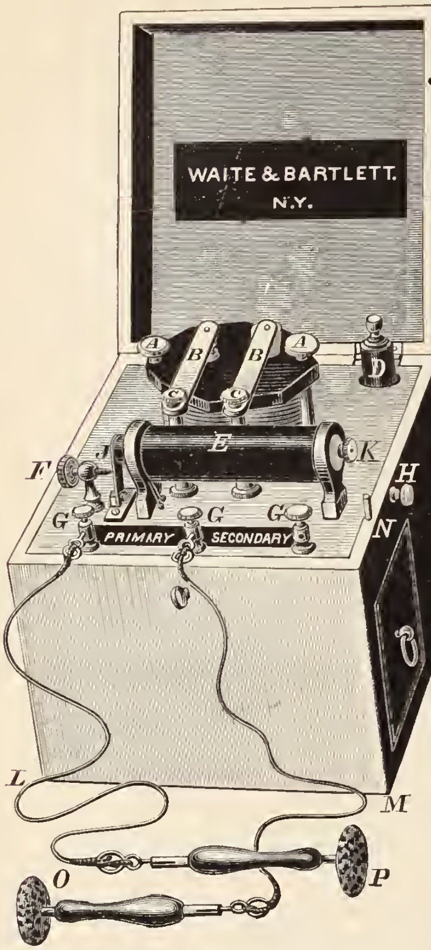

Fig. 1.—One of the Many Forms of Faradaic Machine. *BB*, connecting rods attached to the elements of the exciting cell; *D*, a drip-cup, in which the zinc element is placed when not in use (it should contain mercury); *E*, primary and secondary coils; *F*, adjusting screw for the interrupter (*J*); *G*, binding-posts; *K*, plunger; *L*, *M*, rheophores; *O*, *P*, electrodes. The next figure will explain the action of the different parts. The faradaic instruments of different manufacturers vary more or less in their mechanical devices and perfection of workmanship, but the principle of all is the same.

Much ingenuity has been shown in the construction of the "interrupter" of a faradaic machine. It is very desirable that *slow and rapid interruptions* may be produced at the will of the operator. If a machine only insures rapid interruptions, the slow interruptions can be effected by the use of an "interrupting electrode."

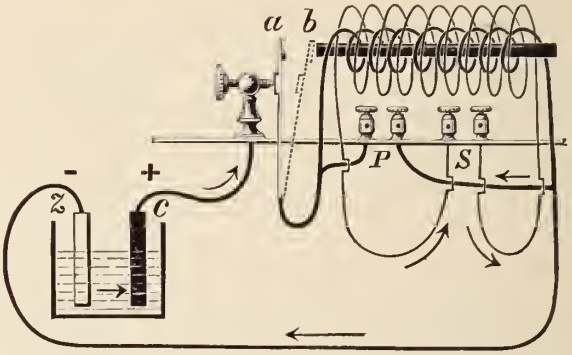

Fig. 2.—A Diagram designed by the Author to illustrate the Construction and Action of a Faradaic Machine.—*Z*, zinc element; *C*, carbon element; *P*, binding-posts for the primary coil; *S*, binding-posts of the secondary coil; *a*, the interrupter when the circuit is passing to the helix; *b*, the interrupter when the circuit is broken. The screw (shown in contact with *a*) allows of the adjustment of the interrupter to the bundle of soft-iron wires within the primary helix, thus making the interruptions fast or slow at the will of the operator. The patient is connected with the battery in action by means of cords attached to the binding-posts at *P* or *S*. These cords are not shown in the diagram, but are shown in Fig. 1. The arrows show the direction of the currents. The zinc is marked as the negative element (–), and the carbon as the positive (+) element of the battery. Note that the wire of the primary coil is represented as coarser than that of the secondary; that the secondary coil has no connection with the elements of the cell; that the current going to the primary binding-posts is generated by the iron core, and is not that which originates in the galvanic cell; and that the interrupter has a small piece of platinum soldered upon it where it comes in contact with the screw, so as to prevent oxidation at that point. Patients feel the current made by the "break" more than that from the "make" of the circuit; hence one electrode apparently gives a stronger current.

The power of producing electrolysis, and some other chemical properties peculiar to the galvanic current, are wanting in the faradaic.

Never attempt to combine a galvanic and faradaic battery. Separate cells should be employed for each, as the faradaic battery requires a cell of greater capacity than those used in portable galvanic machines. They may be placed in the same case, but each should be perfectly independent of the other. If a battery is designed for transportation, it is best to have one of each rather than two combined in one case.

The faradaic current is an *alternating current*, i. e., one which goes in opposite directions at each make and break of the circuit. It is strongest when the current is broken. These facts are not generally recognized by the profession. The polarity changes with each interruption. The so-called "cathode" of a faradaic battery is felt the strongest by the patient.

The helix of a faradaic machine is usually surrounded by a secondary coil of wire, known as the "*secondary helix.*" This coil has no *connection with the elements of the generating cell.* The current produced within it is induced by the passage of the current (formed within the generating

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is far in excess of that afforded by the helix, and this alone would prevent the galvanic current of the generating cell from traversing the circuit of the greatest resistance.

It is not uncommon for agents of the various manufacturing companies to show a prospective purchaser of a faradaic machine the galvanic cell which works the "interrupter," and to endeavor thus to leave the impression that a galvanic current (as well as the primary and secondary faradaic currents) can be conveyed by a faradaic machine to a patient. Such a statement is untrue, and, if made, indicates either ignorance or dishonesty. Subsequent diagrams will render the mechanism of a faradaic machine intelligible to the reader.

* The expression "in contact" is not strictly correct. The interrupter never actually touches the iron core, because its magnetic action ceases before it reaches it.

cell) through the "primary helix," which magnetizes and demagnetizes the iron core. It is, therefore, called the "*secondary current.*" It has high tension, is alternating, and is employed in telephonic lines, chiefly on account of its high intensity. It is modified in strength by regulating the amount of the secondary coil which overlaps the primary—the smaller the extent of the overlap, the weaker the current. A sliding tube of metal is sometimes made to pass over the primary coil, or between it and the primary coil. This accomplishes the same results as if the helix was movable.

The primary and secondary coils of a faradaic machine are made of wire of different thickness and length. Many of those sold are poorly constructed. They are the most important features of the instrument, and should be made with the greatest care and of the best materials. A fine finish of brass mountings and varnish does not always indicate good workmanship in the coils themselves.

Induced currents develop in the individual coils of the wire forming the primary spiral, as well as in the iron core which it invests, and also in the secondary helix. These currents are of no therapeutical value without the iron core, as they lack sufficient intensity.

If the secondary helix is composed of very fine wire, the current induced within it is extremely painful. The number of coils and the thickness of the wire selected for the primary and secondary helix should be graduated to a proper relation to each other and the electro-motive force of the generating cell employed.

The term "*primary current*" is often used as synonymous with the galvanic. It is incorrectly applied by some authors to that faradaic current which is induced by the magnetizing and demagnetizing of the soft-iron core of the helix.

Static electricity is derived from friction. A revolving plate, or by preference several plates, of glass may be employed as a generator. Static electricity is sometimes called *franklinism.*

This form of current has high tension, but it possesses no chemical properties. When a patient is charged with it, it is necessary that the *chair upon which he sits should be insulated* by glass or rubber under the legs. When highly charged, sparks may be elicited from the body of the patient through the clothing. This is not always desirable, but it often renders its application easy, and on that account is mentioned as an advantage by manufacturers of these instruments.

Experimentation has shown that this form of electricity is accumulated upon the periphery of the object charged (as explained in all works upon physics). It apparently does not permeate very deeply below the surface.

The magneto-current (called also the "*dynamic current*") is derived from a *permanent* or *electro-magnet, in front of which an armature is made to revolve.* The armatures are composed of a core of soft iron wound with insulated wire, and the currents produced are formed within them by *breaking the lines of magnetic force.*

The stronger the magnet, the more rapid the breaks made in the current by the revolving armatures, and the greater the number of turns in the spiral wire of the armatures, the more intense is the current.

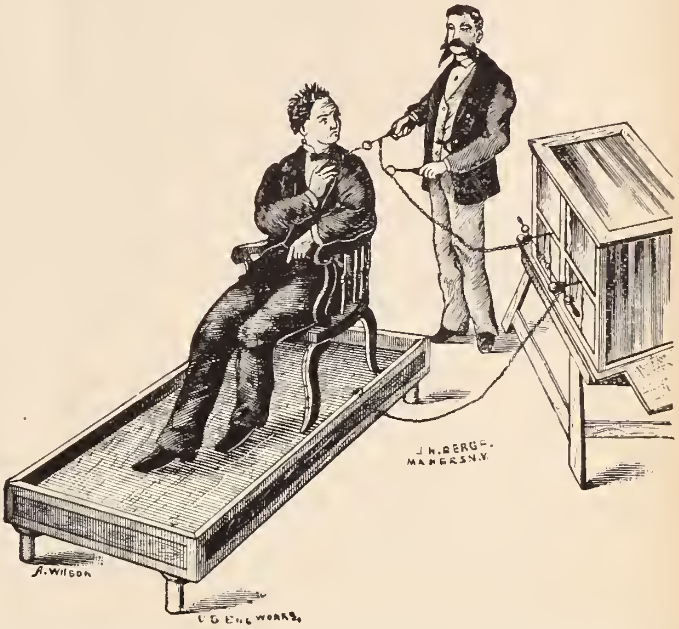

Fig. 3.—A Static Machine in Use. The "direct spark" is here represented as being drawn, *i. e.*, the patient being charged positively and the electrode being connected with the negative pole of the machine. No Leyden jars are employed in this form of administration of static electricity. The "indirect spark" is more commonly employed than the direct, one pole being attached, in this case, to the insulated platform, the other being grounded by a brass chain, and the electrode being grounded by a chain attached to a gas-pipe, a water-faucet, or the like. (See Fig. 30.)

This form of current possesses great electro-motive force or intensity. Currents of this kind are of an alternating character. By means of an automatic commutator (polarity changer), they may be carried, however, in one direction, and, when so, they assume properties similar to those of galvanic currents. Electric lighting, electro-plating, and many other similar applications to the mechanical arts, are to-day accomplished by means of dynamo-machines at a minimum cost as compared with battery currents. They are practically obsolete as a machine for medical purposes, as the current is unsteady when hand-power is employed.

"Magneto-current" machines (which are turned by a crank when in use) are often sold to physicians. They are of little value. They cost as much as a good faradaic instrument, and are not to be compared with the latter. The current generated in both is practically the same, but it is irregular in point of strength in the magneto-current machine, and uniform in the faradaic instrument.

THE GALVANIC CELL—ITS VARIETIES, AND THE GENERAL PRINCIPLES OF ITS CONSTRUCTION.

All substances have an electrical condition which is inherent or capable of being developed. This condition is known as the "potential" of a body. The electrical condition of the earth (which may be regarded as fixed and as a reservoir without limit) is used as a standard of comparison of the "potential" of any given substance.

Those bodies from which electricity tends to flow toward the earth are known as "*positive bodies*" or bodies of "*high potential.*" They are designated by the plus sign (+). Those which tend to draw electricity from the earth are called "*negative bodies*" or bodies of "*low potential,*" and are designated with the negative sign (−). Almost every known substance may, therefore, be classified either as positive or negative under certain circumstances. Subsequent explanations will make this more apparent to you.

When we speak of the "RELATIVE POTENTIAL" of two bodies, we mean the *difference in degree* of the potential of each.

The bodies thus compared must both be positive or negative. One metal, for example, may have a potential seventy times that of the earth, and another one hundred times that of the earth. Both may be positive, yet one is negative as compared with the other. Two such metals have been happily compared to reservoirs at different levels (De Watteville). The tendency between two bodies of different relative potentials is for the current to flow from the body having the highest potential to that possessing the lower potential, thus tending to establish an equilibrium between them. In a galvanic cell, the element most corroded by the fluid of the cell has the highest potential (positive element).

The difference in equilibrium between the "potentials" of two bodies regulates the intensity of what is known as the "ELECTRO-MOTIVE FORCE" of the bodies selected; because the want of equilibrium is the force which starts the flow of an electric current in all cases. The size of the elements has nothing to do with it.

The simplest form of a GALVANIC CELL consists of two bodies (whose potentials differ widely) immersed in a fluid which tends to excite chemical decomposition of one of the elements. Zinc and carbon are commonly selected for the elements and dilute sulphuric acid for the exciting agent.

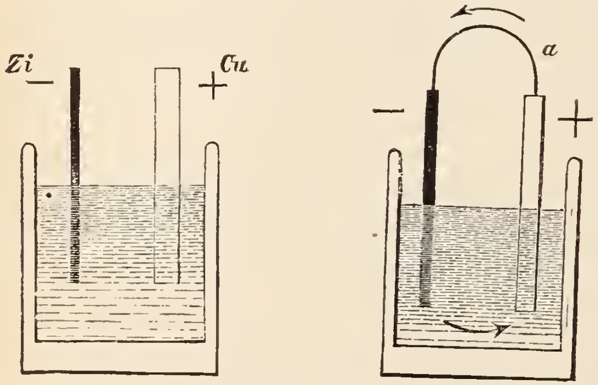

Fig. 4.—A Simple Galvanic Element (after Erb). *Zi*, zinc element; *Cu*, carbon or copper element. The fluid is composed of diluted sulphuric acid or a solution of some of the salts. In *A* the circuit is open; in *B* it is closed by a wire connecting the elements. The arrow shows the direction of the current outside of and within the cell.

The zinc is strongly acted upon by the fluid, while the carbon is not; hence the zinc becomes the positive pole and the carbon the negative. In most batteries of this type the zinc is covered with mercury (amalgamated), to render the action of the cell more uniform and to prevent local action upon the zinc. It also tends to preserve the zinc.

An apparently discordant fact should be remembered—i. e., that the wire connected with the carbon of such a cell (the negative element of the cell) is the *positive pole* of the battery. This is because the electric current passes through the liquid from the zinc to the carbon, and back through the external circuit from the carbon to the zinc. (Fig. 4, *B.*)

When the elements of a cell are connected externally by a wire, a current of electricity flows continuously from the cell-elements through both the wire and fluid. This is known as a "*complete*" or "*closed circuit.*"

The RESISTANCE offered to the passage of the current from the *carbon to the zinc* is the "external resistance"; that between the *zinc and the carbon* is known as the "internal resistance" of the cell.

The INTERNAL RESISTANCE of a galvanic cell may be modified as follows: (1) By the *distance* between the elements; (2) by the *size of the elements;* (3) by the *intervention of some foreign body* (such as a porous cup) between the elements; and (4) by the *character of the fluid* in which the elements are immersed. The nearer the elements are placed, the larger their size, the more direct the passage of the current, and the better the conducting power of the fluid used, the less the internal resistance of the cell, and *vice versa.* The internal resistance of a cell may vary between a fraction of an ohm and one hundred ohms, according to its construction and its excitants.

The EXTERNAL RESISTANCE is modified by the *length,* the *diameter,* and the *character of the conductor* employed. When any substance (such as the human body, for example) is placed between the electrodes, the resistance offered to the passage of a current by the interpolated substance must be added to that afforded by the conductors themselves. The resistance of the human body varies from 600 to 18,000 ohms. It is extremely low in subjects afflicted with general anasarca—probably because an excess of fluid renders the body a good conductor. The average resistance of the human body is not much above 2,500 to 3,500 ohms. The resistance afforded by the body is modified (1) by the saturation of the electrodes; (2) by the moisture of the surface of the body; (3) by the tissues through which the current is directed; (4) by pressure made upon the electrode; and (5) by many other factors which will be mentioned hereafter, among which the addition of salt to the water in which the electrodes are moistened is a very important one.* In cautery batteries the external resistance is increased about $\frac{1}{273}$ of a degree centigrade when the platinum wire is raised (De Watteville). Thus heat may be a factor in modifying the external resistance to be overcome.

The relative resistance of living tissues is represented by the following figures (100 being taken as the maximum): The eye, 4; muscle, 6; nerve, 10; cartilage, 20; tendon,

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* In testing this point lately by means of a Brenner's rheostat, I found the resistance from right palm to left palm, in a boy of thirteen years of age, to be 17,500 ohms, when pure water was used and the electrodes pressed firmly againt the skin of both palms. Adding a teaspoonful of salt to the water and again soaking the sponges reduced the resistance to 7,500 ohms. This illustrates well the necessity for so simple a precaution when employing electric currents upon animal tissues.

20; fat, 75; bone, 100; skin, 100. Thus the eye offers only $\frac{1}{25}$ the resistance afforded by skin and bone; muscle, $\frac{1}{16}$; nerves, $\frac{1}{10}$; cartilage and tendon, $\frac{1}{5}$; and fat, $\frac{3}{4}$. The epidermis, when dry, is practically a non-conductor of electrical currents.

Respecting this point, De Watteville happily remarks that "the human body may be compared to a vessel bound with a poorly conducting material (the skin), unequally packed with non-conducting solid particles, the interstices being filled up with a saline fluid of fair conductive power. The parts most densely packed with solid particles are represented by the bones; those where liquid predominates, by the muscles. Between the two are found the nerves, viscera, etc."

Before we leave the discussion of the various forms of electric currents employed in medicine, it may be well to impress upon your minds some of the more important facts relating to faradaism and galvanism by means of a table in which the two are contrasted with each other. Such a table is not, to my knowledge, to be found in any work upon electricity. It may prove of service to you in many ways:

THE FARADAIC CURRENT	THE GALVANIC CURRENT
Is an "induced current." Is produced by the *magnetizing and demagnetizing* of a core of soft iron.	Is due to *chemical decomposition* of one or more of the elements of a galvanic cell.
Its polarity changes with each "make" and "break" of the circuit.	Its polarity is constant. The negative element of the cell becomes the positive pole of the battery.
The current is an interrupted one.	The current is a continuous one.
It produces muscular contractions of an apparently continuous character, provided the interruptions are very rapid.	It does not produce muscular contractions, except when the intensity is increased or when the circuit is made or broken.
The polarity is inconstant, because the currents constantly alternate in their direction.	Each pole has a special therapeutical action peculiar to it under all circumstances.
Is seldom administered by the so-called "polar method."	Is administered chiefly by the "polar method."
Separation of the poles intensifies the pain greatly.	Separation of the poles does not materially intensify the pain.
The "secondary current" has greater penetrating power than the "primary current." Neither equals the galvanic current in this respect.	Has a remarkable power of penetrating animal tissues placed "in circuit."
It has no chemical properties. It may be modified by an automatic commutator, so as to throw its currents constantly in the same direction, as in a dynamo-machine. In this case it possesses chemical attributes.	Possesses inherent chemical properties, hence its power of producing electrolysis, and its use in electro-plating, electro-lighting, etc.
A galvanometer will show only one deflection, i. e., the difference in strength of the "make" and "break" currents. This deflection is the same under all circumstances when the machine is in use. It does not, therefore, indicate the strength of the current conveyed to the patient.	Produces galvanometer deflections which are proportionate to the strength of the current employed.
There is no difference in the action of the poles.	The anode is the sedative pole; the cathode is the stimulating pole.

(*To be continued.*)

Original Communications.

REPORT ON CHOLERA.

Part I.*

By J. E. BAKER, M. D.,
BROOKLYN.

Cholera Epidemics.—Cholera is endemic in India, where it has existed for centuries, prevailing more or less all the time. In other parts of the world cholera exists mainly in great epidemics, having their starting-point in India during some virulent outbreak there.

The first great epidemic, it is said, began to spread from India in 1817, but did not reach Europe until 1829, arriving in England in 1831. The following year, 1832, in early spring, it landed at Quebec, then extending up the St. Lawrence by the great lakes to Chicago, and thence to other parts of the United States. This, the first epidemic, continued in different parts of the world, and finally disappeared about 1834, seventeen years after it first spread beyond the confines of India.

The second great epidemic, and the most fatal, began to extend from India about the year 1841, and reached England in 1848, and America, at New Orleans, in 1849, prevailing in different parts of the country for four or five years.

The third great epidemic began its march from India in April, 1865, reaching England July 10th, the same year, and America, May 1st, the following year, 1866, at New York.

A fourth epidemic of cholera commenced its westward course from India in 1883 and extended to Europe in June, 1884, and, unless its rate of travel is different from that of former epidemics, or unless it is kept back by sanitary science, it will surely complete its journey as in former epidemics.

Aside from the great interest in the probable visitation of cholera to this country, is that shown by the vigorous researches made bearing upon its ætiological relations by the leading scientific men of the day.

For these investigations men have been sent from different countries to the various cholera districts. The German Government has sent a commission, with Dr. Koch at its head. The English Government has sent a commission similar, with Dr. Klein as its leading spirit. The French Government, besides sending out a commission of its own men, has sent out two Swiss physicians under its direction.

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* Read before the Medical Society of the County of Kings, April 21, 1885.

Two of the ablest papers that have appeared recently in this country on the present status of the study of cholera were penned by Dr. Frank Hamilton and Dr. Flint, Sr. The latter may be fairly considered an exponent of the principles enunciated by Koch, while Dr. Hamilton represents a class who discredit the deductions of Koch, as might be inferred from the following statement which he makes in reference to cholera, that "microscopical studies have taught us absolutely nothing."

The Comma Bacillus.—The question at issue is this: Is the doctrine true which assumes that the so-called comma bacillus is the essential cause of epidemic cholera?

Koch reports that it is present in all well-marked cases, that in one hundred examinations it was absent in none. The French commission refuse to accept Koch's conclusions; although in twenty-four autopsies made by them a micro-organism was found in all but three cases, yet their report declares that they "do not feel authorized to attribute a specific action to the microbe which they found in great abundance in the majority of cases."

Koch not only found it present in well-marked cases of cholera, but found it absent in diseases other than cholera. Dr. Lewis, of the British army, who has studied cholera both in India and Marseilles, severely criticises Dr. Koch's report, and makes the statement that he has frequently found the comma bacillus in the salivary secretions of the mouths of healthy persons, but Koch shows that these are of a different form, and that they have been known for some years. Dr. Flint ("New York Medical Journal," October 25, 1884) adds this fact in support of Koch's view, that he is "not aware that in any instance as yet the presence of this parasite has been demonstrated by the culture-test except in cases of cholera. Obviously this test is essential in order to remove all doubt as to the accuracy of microscopical observations."

Not only is the cultivation-test considered important as bearing on the identity of the comma bacillus, but a still more deciding factor in the fate of this micro-organism is the test by inoculation. Whether the cholera-germ is inoculable or not is a feature of the researches so far involved in great uncertainty. Dr. Flint aptly says that "if, as in the case of the *Bacillus tuberculosis*, the parasite of cholera, after a series of cultivations, is capable of producing the disease by inoculation, the proof of its being the essential cause is absolute."

Besides the experiments of Koch, the two Swiss physicians sent out by the French Government report that they produced the disease in animals by inoculation. There are other experimenters who have reported the same success; but, from the fact that other equally eminent investigators have obtained negative results, it must necessarily follow that the demonstration of the comma bacillus as the essential causative agent of cholera can not at present be received with universal satisfaction.

The severest blow, however, the comma bacillus has received is at the hands of the English commission. A preliminary report, given by Dr. Klein last November, briefly says this: That the comma bacilli are not characteristic of cholera, since they are present in diarrhœa and dysentery; that they behave precisely like other putrefactive organisms when cultivated artificially; and, finally, that all attempts made by the investigators to induce cholera in animals, by either feeding or inoculation with these germs, have signally failed.

It is reported that Dr. Klein has even shown his contempt for the microbe theory by swallowing a quantity of the bacilli without harmful result, but this freak is laughed at in Berlin by the friends of Koch, who assert that it proves nothing except that a suitable nidus is needed for the bacilli to develop in, as in other acute specific diseases, which Dr. Klein did not have.

Some French physician has also swallowed cholera matter in the form of a pill without bad results, but, when the same was given to dogs and guinea-pigs, death soon followed.

However, all these investigators seem to agree on one fact—that there is a specific cholera-germ, but that the comma bacillus is this germ all will not admit. This much is reasonably certain, that, whatever may be the fate of the comma bacillus, the tests by cultivation and inoculation will be the chief means of its final establishment or overthrow.

Bearing upon the general nature of the disease, the following points are interesting, as well as showing the chief characteristics of the infecting material:

1. The manner of transportation and diffusion of the cholera-germ.
2. The sudden onset of the disease and rapid prostration following.
3. Filth an essential factor.
4. Possibility of the disease being "stamped out."
5. Necessity of prompt treatment.

1. *Transportation and Diffusion.*—With reference to its transportation, Dr. Hamilton ("New York Medical Journal," Nov. 15, 1885) says that "the cholera-germ may be conveyed from place to place by clothing or by any other textural fabrics, by articles of food, by water, and by animate and inanimate substances. It may be conveyed for a considerable distance by the air. How far it can be thus conveyed it would be impossible to say, but probably much would depend upon the force of the wind and other atmospheric conditions. There is, no doubt, a limit to its conveyance by this method, and I have reason to believe that it can not be thus conveyed beyond a mile or two."

Dr. Leale, in a recent article on the study of Asiatic cholera ("New York Medical Journal," Jan. 3, 1885), makes the statement that "histories of past epidemics in this country clearly inform us that it enters, by commerce with infected ports, by either the contaminated clothing of passengers or polluted rags." The doctor adds that "newly manufactured woolen or other goods have never been the carriers of disease," but that "old rags and the wearing apparel of those from infected places are to be specially guarded."

That these germs are carried chiefly by means of wearing apparel and polluted rags there are many curious and perfect illustrations. The following are a few: Dr. Atlee, of Pennsylvania, in a report of cholera in 1873, states that "a car-load of emigrants came from Philadelphia to Columbia, Pa. Two or three of these emigrants, who were ill of cholera, were put out on the platform at the railroad station. Some gentlemen, seeing them at the point of death, carried them to a shed and waited upon them. In forty-eight hours these emigrants and these gentlemen were dead, and the disease spread in the town."

An illustration of its extension by means of old clothing is given in a report by Dr. Leale of the entrance of cholera in the vicinity of 440 West Fifty-second Street, New York city, during 1866. "The person attacked was a driver, Peter Crow, on the Tenth Avenue cars, and while in perfect health at 4.30 P. M. Sunday, August 12th, he sat upon some baggage that had been carried on the front of the car by a party of five German emigrants who had just landed at Castle Garden. While sitting on their bundles of clothing, he states that he felt a peculiar chilly sensation, and that when he arrived at his home, seven hours afterward, at 11.30 P. M., he commenced to have nausea, vomiting, and purging, which were soon followed by severe and painful cramps." "Within twenty-four hours from the time he came in contact with the infected clothing he was in the profound collapse of the algid stage of cholera."

Another interesting example occurred at the close of the second great epidemic at Suspension Bridge, a small village twenty-two miles from Buffalo. Dr. R. J. Rogers, the only physician practicing there at that time, in a letter to Dr. Frank Hamilton, says that about the 15th of July, 1854, a company of German emigrants were dumped upon the banks of the river from the cars, awaiting transportation across the then unfinished bridge. Two or three cases of what were called cholera morbus were reported, and, on visiting them, he found unmistakable symptoms of Asiatic cholera. One of the men died in a few hours. The report goes on to say that the residents began to be attacked the following day.

Dr. J. H. Rauch, secretary of the Illinois State Board of Health, gives a striking instance of the portability of the infective agent of cholera. In an address before the National Conference of State Boards of Health in 1873, Dr. Rauch says that "there were outbreaks of epidemic cholera at Carthage, Ohio, Kandiyohi County, Minnesota, and Yankton, Dakota, caused by cholera poison packed up in the household effects of emigrants in Holland, Sweden, and Russia, respectively; these emigrants sailed from healthy ports, in healthy vessels, and were subjected to the usual sanitary requirements of the period. They passed through New York and all the intermediate territory without injury to the public health. But, when their infected goods were unpacked in the interior of the continent, they liberated the poison which gave rise to the local outbreaks."

These examples just related clearly confirm the manner in which the cholera-germ is usually carried; besides, they decidedly illustrate that this germ is long lived. It has been stated that this germ becomes inert in a very brief period, and that it is destroyed by desiccation; but surely these statements must be taken with a grain of allowance in the face of the foregoing facts.

2. *Sudden Onset and Rapid Prostration.*—That the onset of cholera is sudden and the prostration following rapid, goes without saying. The visitation of every epidemic exemplifies that fact. In the Peter Crow case, reported by Dr. Leale, it will be remembered that there was vomiting with purging seven hours after he was exposed to the bundle of rags on the street car, and within forty-eight hours his father and mother were stricken down with the disease.

Dr. Rogers, above quoted with reference to the Suspension Bridge scourge, says that "the visitation was remarkable for the suddenness of its appearance, its short duration, the number of cases, and its terrible fatality." On the second day after the landing of the emigrants, a tramp, a ship-carpenter, and three laborers were attacked, and all died after a very brief illness. A few days later a number of laborers attended a wake of a patient who died of cholera, and, of those present at the wake, five died within twenty-four hours. Dr. Leale says that "the period of incubation is only of a few hours' duration, acting as rapidly as yeast acts upon dough." Dr. Rogers further makes the observation bearing upon the rapid and profound prostration following the attacks, that "one remarkable feature of the epidemic was that in a majority of the later cases there was an absence of the usual premonitory symptoms, many of the patients being in collapse within an hour. In the earlier cases, however, there was the usual vomiting, and then the rice-water discharges, accompanied with no pain usually, but with great lassitude and dejection, followed by cramps, confined mostly to the muscles and tendons of the toes, a gradual lowering of the temperature, profuse sweating and great thirst, the skin assuming a leaden color and losing its contractility, the pulse deserting the wrist, the tongue becoming cold, and the voice husky. As the period of unconsciousness approached, there would be restlessness, and, long after the cessation of the pulse, there would be considerable muscular activity. During the two or three most fatal days I would find the patients, within a few hours of the attack, with a cold tongue and pulseless, and with such a degree of hoarseness that they could only speak in a whisper, and still they could get up and walk about the room. Some had no vomiting or purging, and lived but a few hours."

3. *Filth an Essential Factor.*—Mr. John Simon, the chief medical officer of the English Privy Council, in a report to Parliament, says that "cholera derives all epidemic destructiveness from filth, and especially from excremental uncleanliness."

Dr. F. A. Burrall* states that "the chosen haunts of cholera are in low, dark, damp, overcrowded dwellings, and among the ill-fed, badly clothed, filthy, and dissipated, where this disease makes its greatest ravages."

In addition to these conditions requisite to render the communication of cholera by the ordinary methods effective, Dr. Frank Hamilton mentions low lands and freshly exposed soil. With reference to the former he says: "If these lands are alluvial, and especially if underlaid with clay so as to retain moisture, they favor the propagation of cholera as well as of other diseases."

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* Burrall on "Cholera."

The report of the Registrar-General of England for 1848–'49 concludes with the statement that "the cholera rapidly diminishes a few feet above the low ground on a level with the Thames." It was during this same epidemic that the disease proved so terribly fatal at Toledo and Sandusky, Ohio, where in the latter city it is stated seventeen physicians died from the disease. Both these cities are located on low and exceedingly rich alluvial plains. During the Suspension Bridge epidemic referred to, Dr. Rogers states, "more than nine tenths of the victims resided on the narrow flats bordering the river on both sides," and, "of all the fatal cases, but five occurred in that portion of the village which was situated above these low plains."

As to the effect of the freshly exposed soil, the following, reported by Dr. Frank Hamilton, is interesting: "On Saturday, July 24, 1852, a ditch was commenced for the purpose of laying pipes through Ellicott Street, Buffalo. On Monday the work was renewed, and it was open completely on Tuesday. The excavation brought to the surface a large amount of alluvium underlying made ground of clay and sand. The cholera was prevailing in a mild form in some other parts of the city, but Ellicott Street had always been regarded as healthy, and had almost entirely escaped in previous epidemics. It was occupied by the best class of citizens. There were twenty residences upon the portion of the street corresponding with the ditch. On Monday the first case of cholera occurred among the residents, and on this and the following days there were nineteen cases and nine deaths. The ditch was closed, by order of the Mayor, on Wednesday, and from this date there were no new cases of cholera."

Dr. Flint says, with reference to the influence of filth, that "some striking facts observed in India bearing on this point have been noted by Koch. It seems that in certain parts of India the water used in bathing, washing, cooking, and drinking is contained in tanks which are liable to become polluted by human excrement as well as by various kinds of filth. The occurrence of localized epidemics of cholera in the vicinity of these tanks had been a matter of frequent observation. Such a localized epidemic occurred during Koch's visit in India. About one hundred persons, living in huts situated in the vicinity of a tank, had been attacked with cholera. Examinations of the water in this tank showed the presence of the comma bacilli. The disappearance of these from the tank was coincident with the ending of the cholera epidemic. Examinations of water in other tanks were negative as regards the presence of these bacilli. That the water in the tanks gave rise to cholera had been previously the opinion of medical practitioners in India, and it had been observed that the substitution of pure water in certain situations had led to the disappearance of the disease."

At Suspension Bridge, Dr. Rogers says, "after the disease began to subside, on examination, under the Bellevue House, a large amount of filth was found to have accumulated, and also stagnant water. There was no cellar. Two men brought from Lockport were employed to clean the premises and remove the filth, and both of them died in a day or two of cholera."

One would think it almost useless to multiply instances showing the part that filth occupies in the prevalence of cholera; but the examples given illustrate the fact so graphically that they easily bear repetition in emphasizing the prominence of this element in the study of the ætiology of this dread disease.

4. *Possibility of the Disease being "stamped out."*—Whether this disease can be kept away or checked, or made to disappear entirely, is a question for the most urgent consideration. That the disease is easily controlled and quickly yields to efficient sanitation, or, as it is tritely termed, the "stamping-out" process, there is abundant evidence to prove.

During the epidemic of 1866, at the Crow houses on West Fifty-second Street, cases continued to recur, even with the ordinary methods of disinfection and fumigation; but just as soon as Dr. E. B. Dalton, Sanitary Superintendent of the Board of Health, took it in hand, employing on a larger scale the most vigorous and effective methods, burning all suspicious articles, not a single case of cholera followed. In Dr. Dalton's report of the disease during the year 1866, during which time over one thousand deaths occurred in New York city, he makes the statement that "fumigation, either with chlorine or sulphurous-acid gas, has, with two exceptions, been followed by complete immunity from the disease."

The most striking illustration of the efficacy of the so-called "stamping-out" process is seen in a report given by Dr. Frank Hamilton, who had complete control of the sanitary conditions of Blackwell's Island during the sudden and violent outbreak there in 1866. The following is, briefly, Dr. Hamilton's report: "On August 1st there were 29 new cases and 10 deaths; on August 2d there were 33 new cases and 14 deaths. On the next day (August 3d)," says Dr. Hamilton, "the most important sanitary changes had been made, some of which were very radical, and were in operation. On this day, August 3d, there were 30 new cases and 13 deaths; August 4th, 21 new cases and 4 deaths; August 5th, 12 new cases and 7 deaths; August 6th, 4 new cases and 3 deaths; August 7th, 1 new case and 1 death."

It will be seen, from this statement, that the epidemic began to decline from the day that the sanitary changes were enforced, and in four days—that is, on the 7th day of August—there was but one new case. Dr. Leroy M. Yale, one of the house staff there at that time, says, in a report, that on August 7th, the fourth day after the introduction of the rigid sanitary measures, "the epidemic was virtually at an end."

It is said that, in New York city, during the summer and autumn of 1866, cholera occurred in three hundred and sixty-two houses more or less widely separated from each other, and so completely was its diffusion checked that in no instance did the disease spread proximately beyond the house in which a case or cases occurred. Dr. Flint makes the assertion that "never before or since, in any other part of this or in any other country, have measures for the prevention of epidemics of cholera been devised so scientifically, so thoroughly carried out, nor so successful in the results as those employed by the New York Metropolitan Board of Health in 1866 and 1867. The fact should be cited everywhere as evidence that cholera is a disease which may be stamped out by efficient sanitary measures efficiently employed."

5. *Necessity of Prompt Treatment.*—Aside from the immense practical importance of cholera prevention is the necessity of immediate treatment.

Cholera is classed, along with small-pox, measles, etc., as an infectious disease, the latter running a certain definite course, neither of them susceptible of being aborted. Not so, however, with cholera. It is the general belief that, if predisposing causes be removed and appropriate and immediate medication employed, perhaps a majority of cases will speedily recover.

But there must be no delay. Dr. Hamilton says that "it is not often that a patient is saved to whom remedies are not applied until the period of collapse has arrived; but a large proportion are saved by appropriate remedies employed in the earlier stages of the disease." Dr. Yale, in a report on cholera at Blackwell's Island, says that, of those brought first to the "diarrhœa hospital," not one died. The terrible fatality of the Suspension Bridge epidemic was no doubt due in a great measure to the fact that so many of the cases went into collapse so quickly, long before the arrival of the physician.

Dr. Flint, who has had extensive clinical observations in the treatment of cholera, says that "there is no disease with greater certainty controlled at the outset than this." In order to carry out these prompt measures, he maintains that "the only effectual plan is to organize a sanitary police, and provide for one or two domiciliary visits daily at every house within the limits of the epidemic, the purpose of the visits being to inquire if any one be affected with diarrhœa, to impress the importance of immediate attention to it, and, when circumstances render it necessary, to supply at once appropriate remedies. . . . Abundant proof of the successful operation of the system of house-to-house visitation was furnished by its practical results in London and other towns in Great Britain during the epidemic of 1849."

As to medication, the list of remedies in fashion at the present day is not very long. Calomel has its advocates. Venesection has always had its friends and enemies. Even in the stage of collapse, where one would think blood-letting dangerous and where no one would seem to doubt the efficacy of external warmth and stimulants, it is asserted, on no less an authority than that of Dr. Parkes, who had a large clinical experience in India in 1843, that blood-letting and cold affusion were used with success in this stage, the embarrassed circulation being relieved and the respiration stimulated in the same manner that a new-born babe's respirations are quickened by the application of cold water.

There is one drug, however, concerning which there has been a great deal said, and that is opium. During the first stage, Dr. Flint says, in his recent article, "the controlling remedy *par excellence* is opium. Let opium, conjoined with rest of the body and of the digestive organs, be judiciously employed before the characteristic choleraic dejections occur, and the further development of the disease is prevented with almost absolute certainty. Let this treatment be promptly resorted to as soon as choleraic dejections have taken place, and, in a large proportion of cases, the disease is arrested."

This is putting the early treatment and its results in a nutshell. The positive manner in which it is expressed, coming from so eminent an authority, must necessarily carry great weight with it. If the statement be true, or even partially true, considering the fact that during the past century one million lives annually on an average have fallen victims to this terrible Oriental plague, the necessity for immediate medication becomes vastly more manifest and markedly emphasizes the immense responsibilities of those whose duty it is to care for the health of large municipalities.

The usefulness of opium in an epidemic of cholera morbus was seen a few years ago at Turk's Island, West Indies. The epidemic was attributable to impure water. The drinking-water there is rain-water collected from the roofs of houses into large tanks. When there was a scarcity of rain the water became quite low in the tanks, and consequently mixed with the sediment at the bottom. This epidemic lasted several weeks, and ended when plenty of rain filled the tanks with pure water. At this time there were nearly a hundred people stricken down, and the attacks of some were so sudden and severe that they had to be carried home. One grain of opium in pill was given hourly until relief was obtained, then given every two or three hours, as the case indicated. There was not one death during the entire epidemic, and all the cases yielded so readily to the drug that no other remedies were resorted to, except, however, in a few who were peculiarly susceptible to the effects of opium on the skin. In these cases large doses of astringents were used, but with apparently little effect, and, as in those cases that did not receive immediately the routine treatment, recovery seemed to follow much more slowly. In the few cases that were quite severe, where the stomach was not in a condition for the reception of medicine, morphine by the hypodermic needle was used with admirable results.

Now, assuming that, in the early stage, opium has a positive effect in controlling this disease, which we may grant for the present is due to some specific germ, it would be curious to know what the peculiar action of the drug is. Of course, whether the germ is narcotized or whether it is destroyed directly or indirectly by checking the alkalinity of the intestinal contents, is at present all speculation. Dr. Hamilton says: "It is only necessary to suppose, what seems probable, that the period of life or activity of the germ in the human system is brief, and that opium holds the secretions in a normal condition until the germ perishes or the force of the virus is expended" ("New York Medical Journal," November 15, 1884).

In conclusion it may be stated:

1. That cholera occurs mainly in great epidemics, starting in India and moving in a westerly direction,

reaching America usually about a year after its appearance in Europe.

2. That the fourth great epidemic has reached Europe.

3. That the identity of the comma bacillus as the causative agent of cholera is not as yet accepted by all scientific investigators.

4. That the manner of transportation and diffusion is generally by means of rags and polluted clothing, the latter being worn usually by emigrants.

5. That the incubation period is very short, the onset of the disease very sudden, and the prostration following quite rapid.

6. That filth in all its forms is a necessary concomitant to the disease. Filth may exist without cholera, but cholera seldom prevails without filth.

7. That the disease can be arrested and completely stamped out by efficient and vigorous sanitation, as has been demonstrated beyond all question.

8. That in addition to the extreme importance of efficient sanitation is the absolute necessity of the prompt attention to immediate treatment by the method of house-to-house visitation within the cholera limits, and, if need be, the instant removal of patients to hospital accommodations.

REPORT ON CHOLERA.

Part II.*

By WILLIAM HENRY THAYER, M. D.,
BROOKLYN.

To the report just presented by Dr. Baker I wish to add a few words on the pathology of cholera, with a brief review of the most approved methods of treatment; an outline of the epidemic of 1866 in Brooklyn and New York, with a description of the means employed to arrest it. I have taken the liberty to speak in the first person, as suited to the nature of my paper.

In a report of this kind, designed chiefly to initiate a discussion in the society bearing mainly on the subject of prevention and treatment of cholera, it is not desirable for me to devote much time to detailed description of the disease. It is enough to say, in the language of Dr. Parkes, who wrote in 1847, from five years' experience of cholera in India, that "it is primarily a disease of the blood; and the changes induced in the function of respiration, directly consequent on the alteration of the blood, are the proper and distinctive symptoms of the disease." The purging, vomiting, and cramps are speedily followed by the symptoms belonging to the circulation, that group of symptoms which marks the algid stage, "which afford the only measure of the severity of the case, and from them only can a correct prognosis be formed."

Dr. Parkes says: "The vast majority of untreated cases die."

The first indication, when the patient is seen at the outset, is to arrest purging. For this purpose absolute rest is required, with astringents and sedatives—such as acetate of lead with opium, or tannin, or the mixture prepared by Dr. Squibb, in 1866, of camphor, capsicum, chloroform, and opium.

But astringents and all other measures may fail to arrest the purging, and the algid symptoms begin to appear. "The list of remedies which have been used in cholera to counteract the deeper and more important changes in the blood comprises all the stronger medicines known to physicians at the present day," says Parkes, "and it appears to me," he continues, "no one medicine has been found more efficacious than another." The warm bath is injurious. Cold affusion is grateful, and sometimes temporarily beneficial. Stimulants are quite useless, and indeed hurtful. Venesection was much in favor with East India surgeons at one time, but in subsequent epidemics the results were unfavorable. Calomel, strychnine, sulphuric acid, chloroform, camphor, saline enemata, enemata of brandy and water, repeated doses of castor-oil, ice-bags to the spine—these are the remedies which have been used with more or less apparent success by different men in different epidemics.

My personal experience in 1849 and 1866 leads me to say that very little time should be spent in any attempt to arrest the diarrhœa by astringents or kindred medicines. When the algid symptoms begin to appear, it is too late to cure the disease by stopping the diarrhœa. Indeed, some observers believe it to be salutary. Every one who has had experience in cholera knows that the diarrhœa is no index of the severity of the disease. The cases most rapidly fatal are those in which the evacuations are least. This fact gives color to the opinion held by some that the discharge from the bowels is the means of eliminating the choleraic poison.

In 1849 the experience of East India surgeons led me to bleed the patients. In a dispensary practice in which I saw a number of cases there were some recoveries under venesection: in the case of one man, whose radial pulse was already entirely absent, and blood could for some minutes only be forced out drop by drop from the median basilic vein by continual "stripping" of the arm from the wrist to the elbow, I think it was a full half-hour before it flowed spontaneously. When this occurred, the skin began to grow warm and less livid, respiration became easier, and the patient went on to recovery. But there were others, whose condition seemed more hopeful when first seen than this man's, who were bled while there was a radial pulse, who did not for a moment improve under the venesection.

In 1866, when I had charge of the Hamilton Avenue Cholera Hospital, venesection was not employed there. After a trial for a few days of various remedies which had been most approved, all the cases not hopelessly advanced were treated with calomel, in doses of from three to ten grains, according to the age of the patients, repeated at hourly intervals till three or four were taken, or bilious dejections began. The results were gratifying. We had eighty-four patients with cholera, of whom twenty-six recovered and fifty-eight died. Thirteen only of these entered the hospital before the algid stage; of these, twelve recovered; they were treated with calomel from their entrance. The one who died had no calomel. Seven of the fifty-seven who entered in the stage of collapse recovered under the calomel treatment. The mortality is far greater than it would be if the patients came under treatment at the outset of the disease; two thirds of these were already in the stage of collapse when they entered the hospital.

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* Read before the Medical Society of the County of Kings, April 21, 1885.

The general plan of treatment was absolute rest, no food while vomiting continued, ice or water in frequent small quantities, astringents and opiates if seen very early; but if diarrhœa continued, or if there was the slightest hint of algid symptoms, calomel in repeated doses until bilious evacuations were produced. After this, nourishment in small quantities. But this general plan was so far varied that, after the calomel treatment was adopted in the hospital, we never gave astringents or opiates, or took any direct method to arrest diarrhœa; all patients not hopelessly collapsed and past the power of absorbing medicines were put on calomel at once.

Emetics have been recommended to be given until vigorous emesis is produced, resulting sometimes in the discharge of undigested food long retained, which the involuntary vomiting of cholera had not dislodged. According to Dr. J. C. Hutchison, who had charge of the Brooklyn Cholera Hospital in 1854, after emesis produced in this way the choleraic vomiting usually stopped.

The calomel treatment was pursued in the four cholera hospitals of New York and Brooklyn in 1866, with about the same results in all. It met with favor in Europe and in the U. S. Army. The "Report on Cholera in 1867" in "Circular No. 1, Surgeon-General's Office, 1868," contains favorable testimony to its efficacy from many army surgeons. In 1854, Dr. Hutchison, who treated one hundred and forty-four cases in his hospital, made no attempt to check the diarrhœa, but gave one grain of calomel every hour; and all those who entered the hospital in the first stage recovered.

Nevertheless, an examination of cholera reports in several epidemics in Europe and India discovers nearly as favorable testimony of the use of some of the other remedies already enumerated; and shows that longer experience with any plan of treatment is needed to establish its value, and that remedies sometimes owe their apparent success to the mild character of the epidemic. The remedies thus far addressed to the algid stage of the disease have been empirical. In the first stage there seems to be a clear indication to arrest diarrhœa. But the essential nature of the fully formed disease consists of material alterations in the blood; not merely in loss of serum—which is not so considerable as frequently takes place in "cholera morbus"—but in disorganization of the red corpuscles, by which its oxygenating power is lost or impaired. The blood is invariably deeply carbonized after the formation of the algid stage, and, on exposure to the air, is very slow to absorb oxygen. The expired air contains no trace of carbonic acid, and has an excess of oxygen—a condition fairly attributable to the abnormal condition of the red corpuscles. The patient dies asphyxiated. Whatever mode of treatment is to be beneficial after the disease is fairly established must include remedies which have an influence beyond checking the discharges; they must have the power of arresting the destruction of the red corpuscles, a result to be attained by staying the germination of the specific cause of cholera within the body. Now, has calomel the power to do this, and are there other medicines equally effectual?

Parkes says "the vast majority of untreated cases die." But such a statement must be taken as referring to the Hindoo population, who sicken and die in their hovels in the concentrated choleraic poison arising from the saturated ground, not only refusing medical treatment, but neglecting all improvement of their unhealthy surroundings. Such an opinion may not be correctly given of persons at rest in a well-ventilated building, in a wholesome locality, carefully nursed, and, after these provisions, trusted to their natural restorative powers. There is probably a self-limitation in cholera, and, if the patient is not rapidly killed by the alterations of the blood, the system slowly recovers itself. This is still an open question. I am unable to produce any favorable reports of cases in which no medicine was administered; unless we except the following statement of Dr. Hutchison in his report: "Whenever in any case we are at a loss to know what treatment to adopt, or if we find the patient growing worse under the influence of remedies that we think best adapted to the case, the better plan is to rely on the *vis medicatrix naturæ*. This I have repeatedly done with much satisfaction, patients in the deepest collapse having reacted without any treatment—in one case without even ice, beef-tea, or external applications." But, according to Dr. Hutchison's report, patients received in the first stage were treated with repeated small doses of calomel, and all recovered.

The returns of the mortality from cholera in Brooklyn and New York in the various hospitals and public institutions, and in the community outside, are instructive as to the influence of their various circumstances upon the mortality, as will be seen by the following table:

	Cases.	Deaths.	Percentage of deaths.
Brooklyn Cholera Hospital, 1854..........	144	88	61
Brooklyn, Hamilton Ave. Hospital, 1866 ...	84	58	69
" City Park Hospital, 1866	18	11	61
Kings County Penitentiary, 1866	87	67	77
Brooklyn cases, outside hospitals, 1866....	572	408	71
New York Red House Hospital, 1866......	50	33	66
" Battery Hospital, 1866........	149	107	72
Blackwell's Island Lunatic Asylum, 1866...	98	62	63
" " Workhouse, 1866.......	204	147	72 +
" " Almshouse, 1866........	111	90	81
" " Charity Hospital, 1866 ..	50	42	84
" " Penitentiary, 1866......	19	7	36

By this table it will be seen that in cholera hospitals the percentage of deaths ranged from 61 to 72, averaging $65\frac{5}{8}$, nearly 66, while the percentage of deaths in Brooklyn outside of hospitals was 71. A large majority of the hospital patients were in the algid stage on admission, and some of them moribund; but most of those who were still amenable to treatment recovered, who, under their average circumstances in tenement-houses, would have died.

The returns from the penitentiary on Blackwell's Island probably give a fair showing of the results of cases placed in the most favorable circumstances: nineteen cases and seven deaths = 36 per cent. The subjects averaged twenty-seven years of age, were probably generally vigorous, and were where they came under treatment at once and were not removed. Hospital patients, on the other hand, are aggravated by transportation when they need absolute rest, and have been ill for hours when put under treatment.

The workhouse had 72 per cent. of deaths, the patients being older and less vigorous; the almshouse 81 per cent., the patients being still older and generally broken down; and the Charity Hospital 84 per cent., the inmates being already diseased.

I suppose it may be maintained as an undisputed fact that cholera is extended from the subject to other persons by the evacuations only. Further time is required to settle the question whether the comma bacillus is the essential germ of the disease. But this is immaterial while we know that the evacuations contain the poison, and all of it. This places the extension of cholera within our control. The history of the epidemic of 1866 affords many instances of the possibility of arresting the epidemic promptly by suitable disinfection. It is not possible always to trace the cases to their source of infection. Thus, in Brooklyn the first case was in Walcott Street, Twelfth Ward, July 7th. Other cases occurred within the next four days in the Third, Fourth, Sixth, Ninth, Twelfth, Seventeenth, and Nineteenth Wards, points widely distant from each other. In New York three cases occurred in the first week of May, the third case being five miles from the others. There was no evidence of the source of infection in any of them. Thorough disinfection of the premises was made, and no other case was seen in New York for a month.

In these two cities, cholera was confined almost exclusively to tenement-houses, or such places as the miscellaneous filthy hovels on the wet and foul soil of the Twelfth Ward of Brooklyn, or institutions where many persons were crowded together. And the experience has been the same everywhere. The cholera poison does not easily germinate or develop in clean places. It requires moisture and filth. In the four cholera hospitals of Brooklyn and New York no case occurred among the attendants, who were numerous and passed their whole time in the buildings.

The chief means of arresting the epidemic are ventilation of houses and chemical destruction of the excreta. In 1849 it was not yet known or suspected that the epidemic was to be arrested by disinfection of the excreta, and no attention was paid to them; nevertheless, there were many single cases of cholera in private houses, where there was nothing to prevent its extension but cleanliness and good ventilation. And even in a public institution in Boston—a temporary home for destitute children—which had perhaps thirty inmates, the matron died under my care after nine hours' illness, and was buried from there two or three days later, yet no other case occurred in the house. At that time, therefore, cleanliness and ventilation were all that aided its own limitations in checking the spread of cholera. It was regarded as an epidemic whose extension was due to atmospheric conditions unknown and uncontrollable.

At present, it having been demonstrated that the excreta carry the poison, which may be transmitted from the sick to the well through drinking-water which it has contaminated, or through the air of confined apartments which it has infected, the indications are clearly for the chemical destruction of all discharges and the thorough purification of the clothing and bedding of the sick, and a provision for water for household uses from sources entirely beyond possibility of contamination by cholera poison. In the matter of drinking-water, Brooklyn is safe, for the Health Commissioner has at last succeeded in having every well within the city limits filled up, so that the whole water supply now comes from Hempstead, some miles in the country. All that remains, therefore, is to destroy the excreta. If this is thoroughly done, no disinfection of houses after the death or removal of cholera patients—by steam, sulphurous-acid gas, chlorine, or any other method—can be necessary, because no germs or cholera poison will have escaped into the air, or, if escaped, will have been retained within doors if the building has been constantly and thoroughly ventilated.

To disinfect the excreta we may employ bichloride of mercury or chloride of lime, either one of which is deemed effectual by the Committee on Disinfectants of the American Public Health Association. They advise chloride of lime dissolved in water, in the proportion of four ounces to the gallon of water—one pint of this solution to be added to each discharge in cholera, to be left in the vessel ten minutes before it is emptied into the water-closet; or corrosive sublimate and permanganate of potash, dissolved in soft water, two drachms of each salt to the gallon. This is equally effective, and has the advantage of being inodorous, but the discharge requires to stand in the vessel an hour after the solution is added before being emptied into the water-closet.

The Committee of the Public Health Association assert that sulphate of iron is not a germicide, but valuable as an antiseptic, "its low price making it one of the most valuable agents for the arrest of putrefactive decomposition in privy vaults." That it exercises a restraining influence upon the development of disease-germs can hardly be questioned when we consider what good results followed its use in 1866. In the Hamilton Avenue Hospital it was systematically added to every dejection; and if it is inert, then we must believe that the most complete ventilation is an all-sufficient disinfectant. The hospital occupied one floor of a building measuring seventy by one hundred and ten feet, high-studded, with all its many windows and three large doors constantly open, through which there was a fresh breeze blowing most of the time. The other three hospitals in the Metropolitan Sanitary District used sulphate of iron as a disinfectant in the same way, and no case of cholera originated in any one of them.

"In the New York hospitals of the Health Department all bedding and clothing soiled or used by the patient was boiled in a solution of permanganate of potassium for two hours, and then removed and boiled in pure water. Chloride of lime, or Labarraque's solution of chlorinated soda, was scattered freely about the floors." In the Hamilton Avenue Hospital the floors were scrubbed with soap and water; the blankets and other clothing, after removal from a patient, were immersed in a barrel of water to which a pint of Labarraque's solution had been added, and, after remaining there twenty-four hours, were boiled and washed.

One woman washed these clothes for five weeks. Mattresses and pillows were thoroughly aired; if wet, they were burned.

There were several striking instances during the epidemic of 1866 of its prompt arrest in public institutions by dispersion of the inmates and thorough disinfection. A notable one is that of the workhouse on Blackwell's Island, where, under the direction of Professor Frank H. Hamilton, the inmates were distributed as far as the vacant places in the building would permit, disinfectants were thoroughly used, the diet was improved, and every possible step was taken for cleanliness and the chemical destruction of the excreta. The epidemic began to decline from the day these measures were fully carried out, and in five days it ceased entirely. It lasted nine days, during which time 123 of the 800 inmates died.

At the Kings County Penitentiary, which had eighty-seven cases, all the inmates who were well were removed to tents outside the prison on the 5th of August. Only six cases occurred after removal to the tents, and three of these were in attendants, who continued to sleep in the prison.

The cholera poison does not spread far from its source. Lebert says: "According to the most recent investigations, it is well established that cholera is as old as the human race in India, and that the mouths of the Ganges and Brahmaputra are to-day, as they have been from time immemorial, the centers of departure of the great Indian epidemics of this disease" (Ziemssen, i, 353). Parkes, speaking of the disease at Moulmein, in Burmah, says: "For many months it was confined almost entirely to the houses situated on or over the river, and chiefly to the south end of the town. One side of the main street runs close to the river, and the great majority of cases occurred on this side." "The only Europeans attacked at the commencement of the epidemic were the sailors belonging to the ships in the river; the ships nearest the shore suffered most. Thus nine cases occurred on board H. M. brig Britomarte, lying close in shore; she was moved about a mile away, into the center of the stream, and no more cases occurred." "No case occurred in the European and native regiments, whose barracks are situated half a mile from the river, although these men were allowed unrestricted intercourse with the bazaar."

In several European steamers that arrived with cholera on board during the spring of 1866 the disease was confined to the steerage, where it originated, no case occurring in the cabin. On board the steamer England there were two hundred and fifty deaths by cholera during the voyage, but no cabin passenger was ill. The same is true of the Virginia, which arrived on the 18th of April; no cabin passenger was affected. In Brooklyn, in the Twelfth Ward, where nearly half the cases occurred, the disease clung especially to certain houses, situated nowise worse than many others, and peculiar only in having cholera cases already there. It is difficult to understand its spreading around the world at long intervals only, rather than prevailing every year wherever a suitable nidus can be found, without admitting some other means of transmission besides personal contamination. But this is the only means of extension thus far demonstrated; and we find it possible to check its extension as soon as discovered.

By far the most important consideration is the removal, before the invasion of the epidemic, of all media for the development of cholera-germs in the soil, or the air of houses and localities, by measures of general and local purification, and especially by complete sewerage of every inhabited district, and by every possible provision against crowding and the faulty construction of houses.

THE EPIDEMIC OF TYPHOID FEVER IN PLYMOUTH, PA.

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(Concluded from page 579.)

The course of the epidemic of typhoid fever at Plymouth during the last two weeks would seem to justify the conclusions reached by the authors in the first portion of this article ("New York Medical Journal," May 23d). During this period a large number of new cases have developed, and many deaths have occurred. It appears, from what evidence is at hand, that since the 1st of March about one thousand cases of typhoid fever have occurred in the town and vicinity, nearly one hundred of which have proved fatal.

The continued appearance of new cases proves conclusively that the conditions favorable to the development of the disease still exist. Although some of these cases probably have arisen from transmission of the disease by direct contact with the sick, still, in the presence of the much more usual and potent means of infection which the drinking-water affords, as already suggested, too much stress should not be laid upon this.

In our former article it was shown that the wells had become the favorite source of drinking-water, as a consequence of the universal conviction that the use of the hydrant water was the cause of the outbreak. It was then pointed out that the use of water from wells which from the nature of their surroundings must be contaminated by privy drainage would probably serve as a new means of extending the disease. The actual condition of these wells, then, becomes an important factor in the investigation of the epidemic and in judging of its probable course in the future. In the analysis of the water of the Davis well it was plainly shown that the pollution of the soil about the house had resulted in the pollution of the well. The analyses of the waters taken from other wells in the town have been completed, and the results, together with those previously reported, are tabulated below.

Plate cultivations have been made of the micro-organisms present in the water of the Davis well (as in the chemical analysis this water showed the greatest contamination) for the purpose of determining, if possible, whether the typhoid bacillus was present here. The work of isolating all the germs found has not yet been completed, and nothing can be definitely stated as to the ultimate results. However, it may be mentioned that this water contains micro-organisms in large numbers and of many species, among which are many putrefaction germs. The first two series of plate cultivations (in which the dilution of the water with beef-peptone gelatin was in about the proportion of one to fifty) were rendered useless by the enormous number of colonies which developed in them. This, taken in connection with the chemical analysis, is certainly a very significant fact.

For the benefit of those who may not understand the method of making cultivations of micro-organisms found in water a word of explanation may be added. In preparing the cultivations a small quantity of water (which has been collected with the most careful precautions) is added to a tube of sterilized beef-gelatin that has been previously liquefied by heat. This, after being thoroughly shaken, is poured on to a sterilized glass plate, where it gelatinizes in a thin layer. The micro-organisms which have been mingled with the gelatin, and are thus separated and isolated, are fixed where they fall, and from each individual a colony develops. In this way the development of the colonies of the different germs may be studied, and, by the peculiarities which the different colonies show in their growth, the germs can be isolated with comparatively little difficulty :

	Ammonia.			
	Free.	Albuminoid.	Chlorine.	Solid matter.
1. Reservoir..............	·014	·162	·15	2·10
2. Davis Well *............	4·241	·175	3·80	29·20
3. Susquehanna River......	·020	·135	·20	4·80
4. Well, S. W. cor. Nottingham and Second Streets.	·017	·033	1·55	15·70
5. Well, N. E. cor. Nottingham and Second Streets.	·008	·021	1·40	8·70
6. Well, J. Ives, Lee and Franklin Streets.......	·012	·030	2·70	17·50
7. Public Well, cor. Nottingham and Back Streets..	·025	·034	2·25	20·10

The terms used in the headings of the different columns have already been explained, and their significance in water analysis has been indicated. The most striking results are shown in the column headed *chlorine*, and upon these rests principally the evidence of contamination of the wells. It was to be expected that a considerable degree of organic contamination would be shown by the analysis, in view of the general unsanitary condition of the village, but the columns headed *free* and *albuminoid ammonia*, respectively, can hardly be said to fulfill this expectation.

The water of the Davis well, No. 2, is a typical example of a water contaminated by household slops and privy drainage, and its condition perfectly illustrates the consequence of polluting the soil in the vicinity of a well with such matter. But this well is exceptional among most of those taken, in being shallow (fifteen feet) and close to a house from which these liquids are thrown out upon the ground. The four remaining wells from which samples were taken were all of better character, so far as their surroundings would indicate, than the Davis well.

No. 4 represents a well sixty feet deep, situated at the top of the hill, on the corner of Nottingham and Second Streets. The ground immediately about the well was clean, and its slope rendered pollution by surface drainage unlikely. Moreover, the depth of the well gave its water the advantage of more thorough filtration through the soil, and of a larger area of collecting ground.

No. 5 is twenty-five feet in depth, also in a favorable position, its opening being in a cleanly and well-kept door-yard, elevated some distance above the road, and free from danger of surface drainage.

No. 6 is in the front door-yard of a well-kept and attractive cottage, but stands opposite to and much lower than a row of dwellings on the other side of the street, and would undoubtedly be in the way of the surface drainage from these. Many cases of typhoid fever existed in this row of houses at the time of our visit.

No. 7 is, perhaps, the worst well in respect to surface drainage. It is very shallow (ten or twelve feet in depth), and stands at the foot of the hill on Nottingham Street, its mouth being loosely walled in and nearly level with the roadway. There are no houses above it within one hundred yards on the same side of the street, but the opposite side is lined with dwellings. Its most immediate danger consists in the washings of the roadways and of the gutters. Almost opposite to it was an open kitchen-drain, discharging its contents into the gutter. The well is said to become turbid and foul with every rain. It is largely used by the families in the neighborhood, but it had evidently been but little cared for, and its bottom was covered with rubbish.

We have, then, in Nos. 4 and 5, probably, wells among the best in the town, so far as immediate sources of pollution are concerned, and in Nos. 6 and 7 wells more likely to be foul. The analyses indicate for none of them any high proportion of ammonia, free or albuminoid, and hence no objection can be found to them so far as organic matter is concerned. As organic matter is itself the most significant ingredient of polluted waters, the case, so far as these wells are concerned, rests only upon the proof that other ingredients characteristic of sewage exist in them. It is in this respect that the figures in the column headed *chlorine* are significant. The water of the reservoir contains only 0·2 grain of chlorine to the U. S. gallon; that of the Susquehanna River, 0·15; while none of the well waters contain less than ten times the latter proportion, and the variation of chlorine is closely in accordance with the general indications of the surroundings in each case. If this chlorine was a common constituent of the soil of the whole neighborhood, a certain uniformity might be looked for in the proportions shown by the wells and streams; but, if the conditions of increasing chlorine are precisely those of increasing population and multiplication of privy vaults in a given area, it is difficult to escape the conviction that the abundance of common salt in kitchen slops and in human excreta stands in close relation to the high proportion of chlorine in the waters of these wells. Moreover, the waters which are highest in chlorine have invariably, in the samples examined, been highest also in nitrates, so far as qualitative tests can show, and the latter, as the final products in the disintegration of organic putrescible matter, serve, therefore, only to emphasize the conclusions just drawn. The quantitative determination of nitrates and nitrites would probably have strengthened this conclusion, but, unfortunately, the time required forbids such an extension of the work at present.

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* Owing to an error in the table of analyses given in the first part of this paper, by which the numbers corresponding to the river and the Davis well water were transposed, these results are repeated in the table here given.

It should be said, also, that there exists in every soil a certain capacity for withdrawing from solution and fixing ammonia which enters it, and a soil must be rich in salts of ammonia, and in the organic matters from which these are derived, before much ammonia can be carried far from its source by water. Albuminoid matters, from which the so-called albuminoid ammonia results in the process of water analysis already described, exists largely in contaminated water as very finely divided, flocculent, often semi-transparent masses, and the mechanical filtration performed by the soil accounts perhaps sufficiently for the limited quantity of such matters in the waters of these special wells. In chlorine and nitrates, then, the former especially, we have practically the only matters characteristic of sewage which can be carried to a great distance through a soil, unless certain open channels of communication are found; and the presence of these substances may, therefore, be regarded as foreshadowing the more remote contamination which is slowly advancing upon a well that includes a privy or cesspool within its drainage area.

The wells examined were probably better than the average of the wells in the village, and, if the indications of present contamination in these are slight, they show at least what may be looked for in wells less favorably situated, or even in these wells themselves at times when the minute channels of the soil are flushed by heavy rains. It is much to be desired that a systematic examination of a large number of wells in Plymouth be made at the present time. The opportunity offered for adding to the evidence already at hand to establish the connection between drinking-water and disease is an exceptional one.

The question of the general health of Plymouth previous to the present epidemic has been purposely avoided in the earlier portions of this article, but a few words are necessary now. From what could be learned from a number of prominent physicians residing in Plymouth, it appears that there have been a large number of cases of typhoid fever in the town during the last two or three years, and especially in the year ending January 1, 1885. From the best evidence at hand, it is probable that not fewer than a hundred and fifty cases occurred during that year. In view of the present epidemic, it becomes an important point to determine what was the cause of so large a number of cases in a town of the size of Plymouth. Impure drinking-water is, of course, the most probable source of the disease. Furthermore, it does not seem likely that the hydrant water was responsible for these cases, and the whole matter is satisfactorily explained by supposing the well waters to be contaminated. This has already been rendered probable by our analyses. Moreover, it was found that many families which did not possess wells of their own used water from the neighbors' wells for drinking purposes during the summer.

The possibility of a general contamination of the well waters being shown, the conditions which now exist in Plymouth are such as to render it a matter for the most serious consideration. More than a thousand cases of typhoid fever have recently occurred within a limited area, and the excreta of these patients, for the most part at least without previous disinfection, have been deposited in the ground within this area. This same area is also the collecting ground for numerous wells, the water of which is used for drinking. With warm weather and the continued existence of the disease, each day increases the danger of infection through the use of well water. If such water is to be used at all, therefore, it should only be used after thorough boiling. This to a certain extent has been done. The water of the reservoirs, however, is certainly more capable of control as regards its purity, and, under proper sanitary supervision, can be kept so free from contamination that it is on all accounts to be preferred for the supply of the village.

In concluding this article, the authors would gratefully acknowledge the courtesy and assistance received from physicians and others in Plymouth, and from Dr. Taylor, of Wilkesbarre, to whom they are indebted for the first published explanation of the cause of the epidemic.

NEW YORK, *June 1, 1885.*

Book Notices.

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NEW YORK, SATURDAY, JUNE 6, 1885.

THE NEW YORK COLLEGE OF MEDICINE AND SURGERY

Whatever craving there may be for the Governor to sign the bill chartering the "New York College of Medicine and Surgery" we believe to be a sentiment in which the promoters of the scheme have no rivals. Not only is there no need of another medical college in New York, but it is exceedingly doubtful if another one could succeed, provided its workings were at all legitimate. Least of all is there any room for a new "eclectic" concern. A minimum of teaching being all that that sect can endure, it is of course not to be supposed that any competition of a sort calculated to lead to excellence can be at the bottom of the project, and it seems as if this consideration alone ought to determine the Governor to withhold his signature from the bill. But there is another fact in the case that may appear more tangible to the official mind, and that is the circumstance that the individuals engaged in the enterprise have not complied, to the satisfaction of the Regents of the University, with the very gentle requirements of the general law under which they might become incorporated, but have chosen to depend upon the special legislation which they succeeded in carrying through the Legislature, and which they now ask the Governor to complete.

Apparently with the intent to do away with any aversion on the part of the Governor to practically overrule the judgment of the Regents, the promoters of the bill have taken the position that the Regents were governed by what they are pleased to term a "prejudice" against their sect, and that hence they were obliged to ask for special legislation. There is of course no ground for such an allegation, but that it will serve the purpose of creating a certain amount of popular sympathy there can be no doubt, and this sympathy is what they rely on for carrying their point with the Governor. It is a familiar move, and in this instance it would be of little interest to the community but for the fact that it has been pushed to the legislative phase of the project, one of the chief spokesmen of the proposed faculty having gone so far as to publicly accuse a Senator of having explicitly stated that he ought to be given a pecuniary recompense for favoring the bill, in view of the criticism to which such a course would subject him from the regular physicians in his district. It is easy to see that the excuse put into the Senator's mouth for demanding a bribe is of itself calculated to call forth the same sort of popular sympathy for the movement as that which we have already mentioned.

PERINEORRHAPHY.

On reading a recent article in the "Medical Press," by Dr. Graily Hewitt, on the restoration of the perinæum, we were reminded how numerous were the operations for repairing lacerations of this structure, and, on the whole, how complicated they were. One is almost appalled, on glancing over a European treatise on gynæcology, to note the strange, weird diagrams which represent the different methods of denudation practiced by foreign operators. Our own surgeons have not failed to employ their inventive faculties in this direction, so that there are now almost as many "new" operations for lacerated perinæum as there are pessaries. The general practitioner has been hopelessly muddled by the multiplicity of the latter, and there is reason to believe that the difficulty in choosing between the various operations of perineorrhaphy may lead him to regard it as a more complicated procedure than it really is.

We can see no particular advantage in Dr. Hewitt's operation over others. The author is evidently a firm believer in the idea of the perineal body—an idea, we venture to predict, which is destined to be dropped. It is extremely desirable that teachers of gynæcology should follow the lead of Dr. Emmet in trying to bring minor operations within the range of general practice. This can not be effected while every man continues to insist upon his own pet methods to the exclusion of every other. It seems to us that more thought will have to be devoted to the study of the normal functions of the perinæum, and some approach to agreement as to the nature of those functions secured, before a well-defined appreciation can be attained to by the profession at large of the merits of the various operations for its injuries.

HOW SHALL THE PHYSICIAN CLEANSE HIS HANDS?

Dr. Forster, of Amsterdam, contributes an article on this subject to the "Centralblatt für klinische Medicin." He calls attention to the great importance of physicians' thoroughly disinfecting their hands before leaving a case of infectious disease (especially any of the exanthemata), and at the same time he asserts that few of the disinfectants now in use really have the power of destroying those microspores which are recognized as so dangerous an element in modern medicine. After a series of careful experiments in the hygienic institute at Amsterdam, in which every precaution was taken to avoid error, the author decided that a solution of carbolic acid of the strength of two and a half per cent. was not capable of "sterilizing" the finger, but that a solution of corrosive sublimate of the strength of one to two thousand formed a reliable antiseptic wash. He urges that the latter be adopted by all physicians as well as surgeons.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 2, 1885:

DISEASES.	Week ending May 26.		Week ending June 2.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	1	0	5	1
Typhoid fever	17	4	12	4
Scarlet fever	87	16	60	12
Cerebro-spinal meningitis	5	6	5	3
Measles	96	8	88	17
Diphtheria	50	20	78	27
Small-pox	0	0	1	0

The Medical Society of the State of New York.—The Governor has signed a bill empowering the society to regulate its own membership.

The Study of Sanitary Engineering is henceforth to form a part of the course at the School of Mines of Columbia College, and it is announced that the chair will be filled by Dr. John S. Billings, of the army.

The International Sanitary Conference at Rome is reported to have passed a resolution declaring that a ship not provided with a medical officer should undergo a consular inspection at Suez. This measure, together with the five days' quarantine of infected vessels determined upon, seems to have stirred up no little opposition among the English, and one of the leading London newspapers declares that England can not assent to such a regulation, which it looks upon as an embargo on all Oriental commerce and as "further evidence of the unfriendly spirit of the European powers, led by France."

The Maine Medical Association will hold its thirty-third annual meeting at Portland on Tuesday, Wednesday, and Thursday, June 9th, 10th, and 11th. The programme includes the following papers: "Cases of Acute Rheumatism," by Dr. A. S. Thayer, of Portland; the President's Address, by Dr. T. A. Foster, of Portland; "The Law of Heredity," by Dr. A. M. Peables, of Auburn; "Report of Cases," by Dr. E. H. Hill, of Lewiston; "A New Perineal Operation," and "Results of Tait's Operation," by Dr. S. C. Gordon, of Portland; "Morphine as a Substitute for Hanging in the Execution of Criminals," by Dr. F. H. Gerrish, of Portland; "The Treatment of Bright's Disease," by Dr. I. T. Dana, of Portland; "A First Series of One Hundred Cases of Cataract," by Dr. E. E. Holt, of Portland; "The Employment of the Insane," by Dr. B. T. Sanborn, of Augusta; "Abdominal Surgery: its Growth and Triumphs," by Dr. C. R. Crandall, of Portland; "Intra-capsular Fractures of the Femur," by Dr. S. H. Weeks, of Portland; "Some Rare Cases of Diseases of the Throat, and Treatment," by Dr. O. St. C. O'Brien, of Bristol; a Report on Necrology, by Dr. S. C. Gordon, of Portland; and the Annual Oration, by Dr. S. H. Weeks, of Portland.

The Long Island College Hospital held its twenty-sixth annual commencement at the Brooklyn Academy of Music, on Wednesday, the 3d inst., and the degree of doctor in medicine was conferred on a class of forty-seven candidates.

The American Climatological Association.—At the recent annual meeting, held in New York, the following-named gentlemen were elected officers for the ensuing year: Dr. William Pepper, of Philadelphia, president; Dr. Frank Donaldson, of Baltimore, first vice-president; Dr. Beverley Robinson, of New York, second vice-president; Dr. J. B. Walker, of Philadelphia, secretary and treasurer; Dr. J. C. Wilson, of Philadelphia, Dr. E. D. Hudson, Jr., of New York, Dr. Bruen, of Philadelphia, and Dr. J. H. Tyndale and Dr. F. H. Bosworth, of New York, members of the Council.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 24, 1885, to May 29, 1885:*

HARTSUFF, ALBERT, Major and Surgeon. Ordered from Department of Missouri to Department of the East. S. O. 121, A. G. O., May 27, 1885.

BROWN, H. E., Major and Surgeon. Ordered from Department of the East to Department of the Missouri. S. O. 121, A. G. O., May 27, 1885.

CALVIN, DEWITT, Captain and Assistant Surgeon. Ordered for duty at Newport Barracks, Kentucky. S. O. 107, Department of the East, May 22, 1885.

HALL, WILLIAM A., Captain and Assistant Surgeon (David's Island, New York Harbor). Ordered for temporary duty at Willet's Point, N. Y., during absence of post surgeon. S. O. 121, A. G. O., May 27, 1885.

SPENCER, WILLIAM G., Captain and Assistant Surgeon. Ordered for duty at Fort Sisseton, Dakota Territory. S. O. 55, Department of Dakota, May 20, 1885.

Society Meetings for the Coming Week:

MONDAY, *June 8th:* New York Academy of Sciences (Section in Chemistry and Technology); New York Ophthalmological Society (private); New York Medico-Historical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Norwalk, Conn., Medical Society (private); Burlington, Vt., Medical and Surgical Club.

TUESDAY, *June 9th:* New York State Medical Association (Third District Branch—Syracuse); Massachusetts Medical Society (Boston—first day); Maine Medical Association (Portland—first day); New York Medical Union (private); Medical Society of the County of Rensselaer, N. Y.; Newark, N. J., Medical Association (private); Trenton, N. J., Medical Association (private).

WEDNESDAY, *June 10th:* Massachusetts Medical Society (second day); Maine Medical Association (second day); American Microscopical Society of the City of New York; New York Pathological Society; New York Medico-Legal Society; Medical Societies of the Counties of Cayuga and Tompkins, N. Y. (Ithaca); Philadelphia County Medical Society (conversational).

THURSDAY, *June 11th:* Maine Medical Association (third day); Harlem Medical Association of the City of New York; Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Pathological Society of Philadelphia; South Boston, Mass., Medical Club (private).

FRIDAY, *June 12th:* Medical Society of the Town of Saugerties, N. Y.

SATURDAY, *June 13th:* Obstetrical Society of Boston.

Letters to the Editor.

THE JACOBI–SHOEMAKER CORRESPONDENCE.

PHILADELPHIA, *June 1, 1885.*

To the Editor of the New York Medical Journal:

SIR: Permit me to say, in reference to the recently published correspondence between Dr. Jacobi and myself, that the letters were of a personal nature, and were injected into the journals without any authorization on my part, or cause on the part of Dr. Jacobi. I have nothing to retract from the statements which I made at the meeting of the American Medical Association at New Orleans. They are absolutely true, and can be substantiated by better evidence than the words of Dr. Jacobi. When the time that I deem proper shall arrive, I will demonstrate the non-truthfulness and real inwardness of Dr. Jacobi's assertions in such a way that not one of your impartial readers will have any doubt of the justice or of the propriety of my remarks at New Orleans.

I have no desire to bandy words with Dr. Jacobi on questions of veracity. My status in my own community is certainly as good as that of Dr. Jacobi in New York. I have never referred to or mentioned him in public in connection with the

American Medical Association or the International Congress. At present he is simply his own accuser in the matter; but it is well said that "the wicked fleeth when no man pursueth."

Yours respectfully,

John V. Shoemaker.

THE LOCAL ORIGIN OF TYPHOID FEVER.

Muscatine, Iowa, *May 28, 1885.*

To the Editor of the New York Medical Journal:

Sir: In reading Dr. Biggs's article in your journal on the source of contagion of the Plymouth epidemic of typhoid fever, some experiences of my own have been vividly brought to memory. I have been practicing in this county more than thirty-two years, consequently have had opportunities of seeing several epidemics of typhoid fever, in three of which I could certainly locate the cause of infection. The first was in 1868. A tramp had died of typhoid fever in the town of West Liberty, Iowa, some time during the latter part of August, and was buried in the corner of the cemetery close to the public road. Soon after or about that time a family bought a lot directly across the street from the cemetery and built on lower ground, digging a well eighty-five feet from where the tramp was interred. The following fall was an exceedingly wet one. The ground (which was black loam on clay, and, some ten feet below that, quicksand) had become saturated with water, so that the well and cellar were full to the surface of the ground.

The family, consisting of the parents and ten children, used this water for drinking and household purposes. The father and mother had suffered from typhoid fever before leaving England. They escaped, as did one son who worked away from home. The nine other members contracted the fever in an aggravated form, and two grown daughters died. As none of the neighbors who nursed them would drink the water, from the first, on account of the surroundings, the contagion did not extend beyond the family.

The second occurred in the family of an old physician of a neighboring village in 1869. The first person attacked was the old doctor, in whose case a satisfactory diagnosis was not made until convalescence commenced, when other members of the family began to show unmistakable signs of typhoid fever. This was before the days of fever thermometers, and the only symptoms presented by him were constant hiccough and a very scanty secretion of urine. The hiccough was constant, sleeping and waking, for three weeks, and the secretion of urine did not exceed four ounces a day during that time. There was no diarrhœa and no eruption. When others of the family sickened I commenced looking for a cause. I found the cellar in good condition. When questioned about their well, they said there could be nothing the matter with that. It had been an open one with windlass and bucket until a month previous, when a pump was put in and the well tightly inclosed, and, as they supposed, thoroughly cleaned.

They brought me a glass of the water, which looked very clear and tasted excellent. Not being satisfied with what they said of the well, I went upon a tour of inspection. I found an old privy within sixteen feet of it, with a pit of some four feet in depth beneath it, curbed with boards, which had been there some fifteen or sixteen years, and was full to the top, but still in use. The curbing of the well was then removed and a direct communication between the vault and the well was demonstrated. On the water being pumped out there was found in the bottom a barrel of semi-fluid fæcal matter, mixed with various articles thrown in by children, showing that the impurity had been present for a long time, remaining innocuous while free communication with the air was kept up, but, when tightly inclosed, its poisonous qualities soon becoming manifest. All the nurses and help about the house, who were in the habit of drinking that water even for a few days, were taken in due time with the fever, quite an epidemic arising therefrom. But after stopping the use of the infectious water no other case occurred. Upon careful inquiry, I was unable to discover that there had ever been a case of typhoid fever in the house previous to the old doctor's attack. Dr. W. W. Riddle (now dead), who assisted in the treatment of the family, and had lived in the village since that house was built, was certain that such was the case.

Of the ten to fifteen cases there originating, all ended in recovery but one.

I was forced to suspect that typhoid fever arose *de novo* in that drinking water.

In the fall of 1875 I was more fully convinced of the occasional autocthonous origin of typhoid fever.

A farmer had built a house on a high and dry bluff free from malarious influence.

The water-supply was a well, deep, and not close to any possible source of infection. The family had lived in the house ten years, and no physician, except myself, had ever been called to them. I am positively sure that there had never been a case of typhoid fever on the premises. They had a family of seven children, healthy and rugged.

During the month of December, 1874, the mother died of puerperal albuminuria. The father, being a dissipated man, the care of the family fell in a great measure upon two little girls, twelve and eight years old. Consequently, the sanitary condition of the residence was soon none of the best. In August, 1875, the oldest daughter was attacked with typhoid fever, which ran a rapid course to perforation, peritonitis, and death. Soon after the rest of the family were stricken down by the disease.

I had them removed from their unsavory home and scattered around among their relatives, where they could have the best of care and nursing. Four of the seven died.

After their removal, two women of the neighborhood volunteered to clean the house. They found in a little closet behind the cook-stove a half-bushel of dirty, putrid dish-cloths, which had been thrown there by the children as they became too filthy for use. The women said that the offensive smell that arose from them when removed exceeded anything within the range of their experience. They both contracted typhoid fever, but recovered after a severe run of it.

Knowing that the weight of authority is against me, I can not help believing that the infection originated spontaneously within that heap of rags, and was communicated through the medium of the atmosphere.

A. Ady, M. D.

Proceedings of Societies.

CONNECTICUT MEDICAL SOCIETY.

Ninety-fourth Annual Convention, held at Hartford, Wednesday and Thursday, May 27 and 28, 1885.

The President, Dr. B. N. Comings, of New Britain, in the Chair.

Wednesday's Proceedings.

Meeting of the President and Fellows.

The meeting was held in the County Court-House, and was called to order at 3 p. m. Dr. S. B. St. John and Dr. P. V. Burnett were appointed a Committee on Credentials.

The President's Address.—The society was reminded that during the year several distinguished members had died. Among them was Dr. C. W. Chamberlain, of Hartford, one of the vice-presidents of the society, who had held the office of secretary for eight years, and who at the time of his death was secretary of the State Board of Health. By his well-trained intellect, his constant care in all his work, and his broad scholarship, he accomplished results which would cause his name to be long remembered by the profession. In regard to the business which was likely to be brought before the society, perhaps the most important was the consideration of the proposed charter. A special meeting had been held to consider this matter last January, but no definite decision was reached at that time. A vote was, however, passed to refer the subject to the county societies for discussion, and inviting them to report the results of such discussion. Only two counties had handed in any expression of opinion.

The adoption of the proposed charter would involve a radical change in the government of the society. At present the county meetings were primaries where delegates were elected to represent the members of the county societies at the business meetings of the State society. It was now proposed to make every member of each county society a fellow of the State society. It seemed proper that such a radical change should be well considered, and then finally disposed of. The question of the resumption by the society of the power of conferring degrees was less important, because the power was not used. It was as if one were to consider in regard to an old piece of furniture, for which he had no use, whether he would dispose of it or would send it to the attic and keep it. The society was reminded that the subscriptions which had been received for reprinting the "Transactions" were insufficient to meet the expense incurred. The president, in his official capacity, last autumn, had attended the opening of the new hospital at Bridgeport. The profession was to be congratulated that Fairfield County had so fine a hospital.

Appointment of Committees.—The President then announced the following committees; *On Unfinished Business*—M. C. White, J. G. Stanton, L. Holbrook. *On County Resolves*—M. Storrs, J. La Pierre, H. F. Hammond. *On Business*—S. B. St. John, G. B. Packard, W. C. Wile. *On Honorary Members*—W. H. Carmalt, F. Rogers, C. H. Pinney. *Auditing Committee*—W. Deming, A. B. Worthington. *To Nominate Essayists*—S. G. Hubbard, C. H. Rogers.

Treasurer's Report.—Dr. E. P. Swasey reported that the balance in the treasury at the beginning of the year was $682.92. The receipts for the year ending May, 1885, had been $653.40, making a total of $1,336.32. The expenditures had amounted to $687.20, leaving a balance, at the end of the year, of $649.12. There was still due from the county societies $93.60. The republication of the "Transactions" of the society from 1792 to 1830 had involved an expense of $597.70, of which $245.50 had been raised by subscription. It was recommended that some action be taken to encourage delinquents to pay their taxes.

Subsequently Dr. Swasey introduced the following: "*Resolved*, That the county clerks be empowered to drop from the roll without further action the names of those members who persistently neglect to pay their taxes, without showing sufficient evidence of their inability to do so." This being in effect an amendment of the By-laws, action upon it was, in accordance with the rules of the society, postponed until next year.

Proposed Amendments to the By-laws.—The Committee on Unfinished Business reported, in regard to the proposition made last year, that the ex-presidents should be formed into an advisory committee who should be *ex-officio* fellows of the society, that it was not probable that such action would be legal, and that, if it was legal, it was not expedient. They also reported that it was not expedient to appoint any additional committees. The report was accepted and adopted.

Nominating Committee.—The secretary announced that, in several counties, the By-law requiring each county society to designate one of the fellows to act as a member of the Nominating Committee had not been complied with. The fellows present from these counties were directed to choose one from their own number to serve upon the committee. The following gentlemen were at length announced as a committee to make nominations: H. G. Howe, of Hartford County; P. Cassidy, of New London County; J. W. Wright, of Fairfield County; H. F. Hammond, of Windham County; W. S. Munger, of Litchfield County; P. V. Burnett, of Middlesex County; F. Gilnack, of Tolland County; H. A. Carrington, of New Haven County.

The Separation of the Society and the Medical School.—Dr. M. C. White, of New Haven, stated that at the last session of the General Assembly application had been made for approval of action which had been taken by the Corporation of Yale College and the Connecticut Medical Society in dissolving the relation which had long existed between the two. An act had been passed legalizing the separation and restoring to the society the privilege of examining candidates and conferring degrees. It was the opinion of legal counsel that the society must signify its approval of the action of the Legislature within six months in order to secure the enjoyment of these rights. Such action on the part of the society was necessary to formally perfect the work already done. Dr. White accordingly introduced the following:

"*Resolved*, That the president and fellows of the Connecticut Medical Society hereby approve and accept the powers and responsibilities conferred and implied in the recent action of the General Assembly 'Confirming Agreement between Yale College and the Connecticut Medical Society.'

"*Resolved*, That the secretary be directed to file a copy of these resolutions with the Secretary of State."

These resolutions were opposed by a number of gentlemen who regarded it as a mistake for the society to resume the functions of examining and licensing and conferring degrees. They were favored by others who saw in them nothing more than an acceptance of something for which the society had asked. The resolutions were finally adopted by a vote of 22 to 14.

The Proposed Charter.—Dr. Storrs, chairman of the Committee on County Resolves, reported that the only matters brought before the committee related to the new charter. The majority of the counties were either opposed to any change or were indifferent. The committee therefore reported that the proposed change was inexpedient, and should be indefinitely postponed.

Dr. S. G. Hubbard objected to such a disposition of the subject, because the counties had not had sufficient opportunity to discuss it. He therefore offered the following resolutions as a substitute for the action proposed by the committee:

"*Resolved*, That the proposed charter be published in the 'Proceedings,' and that action be postponed to the annual meeting of 1886.

"*Resolved*, That a committee of three be appointed to obtain an expression of opinion in regard to the adoption of the main features of the proposed charter from every member of the State society, and report the result at the next annual meeting of the society."

The first resolution was adopted by a vote of 17 to 16. The second resolution was then also adopted. The president subsequently appointed the following gentlemen to act as a committee for the above-mentioned purpose: M. C. White, of New Haven,

W. G. Brownson, of New Canaan, and L. S. Paddock, of Norwich.

Nomination and Election of Officers.—The Nominating Committee recommended the following list of officers for the ensuing year: *President*, E. C. Kinney, of Norwich; *Vice-President*, Samuel Hutchins, of Danielsonville; *Treasurer*, E. P. Swasey, of New Britain; *Secretary*, S. B. St. John, of Hartford; *Committee on Matters of Professional Interest in the State*, C. J. Fox, of Willimantic, W. H. Holmes, of Waterbury, and A. M. Shew, of Middletown; *Committee to Nominate Physician to the Retreat for the Insane*, R. S. Goodwin and L. Holbrook; *Committee of Publication*, I. W. Lyon, with the secretary and treasurer, *ex officio; Committee of Arrangements*, C. A. Lindsley, C. E. Park, M. C. O'Connor; *Dissertator*, F. E. Beckwith; *Alternate*, A. E. Abrams; *Delegates to the American Medical Association*, W. C. Wile, G. L. Porter, G. W. Avery, E. A. Hill, F. L. Dickinson, C. E. Hammond, H. W. Buel, I. G. Porter, and C. H. Pinney; *Delegates to the Maine Medical Society*, A. A. Holmes and H. F. Hammond; *to the New Hampshire Medical Society*, James Campbell and C. C Godfrey; *to the Vermont Medical Society*, C. M. Carleton and W. W. Knight; *to the Massachusetts Medical Society*, L. B. Almy and A. B. Worthington; *to the Rhode Island Medical Society*, W. H. Carmalt and J. B. Kent; *to the New Jersey Medical Society*, F. E. Beckwith and C. H. Rogers; *to the New York Medical Society*, S. G. Hubbard and C. H. Bill.

The secretary was instructed to cast the ballot of the society for the gentlemen nominated.

Application for Examination.—A communication from the Fairfield County Society was read, stating that a practitioner of twenty-eight years' standing in that county, who was a graduate of an eclectic medical college, desired to be admitted to the society, and was willing to undergo an examination in order to demonstrate that he possessed the requisite qualifications. Action thereon was indefinitely postponed.

Committee on Examinations.—It was reported that several members of this committee visited the Medical Department of Yale College in June last, examined the papers of the candidates for graduation, took part in the oral examination, and approved of the conferring of the degree of doctor of medicine upon nine candidates. This was the last time that a committee of the society would perform these duties.

The Auditing Committee reported that they had examined the report of the treasurer and found it correct.

The Annual Tax of two dollars, payable June 1st, was voted to be assessed upon each member.

The Annual Volume.—Seven hundred copies of the "Proceedings" of the society were ordered to be published.

The Reprinted "Proceedings."—It was explained that the cost of reprinting the "Proceedings" of the society previous to 1830 had considerably exceeded the original estimates. An expense of thirty or forty dollars had been incurred in having a copy made, with a type-writer, from the original records, in order to avoid exposing these valuable documents to the risk of injury at the hands of the printers. The estimate was made for an edition of eight hundred, but a thousand copies were ordered. The expense of delivering the volumes to the members through the mail was considerable, and had not been taken into account. To meet the deficiency, it was proposed to assess upon each member an additional tax of one dollar and twenty-five cents, payable June 1, 1885, subject to rebate in proportion to the amount already paid in for this object by each county. After some discussion the society voted to pay the deficiency out of the money deposited in the bank, instead of laying a special tax.

Honorary Members.—The Committee on Honorary Members recommended that Dr. Austin Flint be elected an honorary member. According to the rules of the society, action upon this recommendation was postponed until next year.

Communications from other States.—Letters from the State societies of New Jersey and Nebraska, in regard to medical education, were brought before the society, and referred to a committee of two, with the request that a report thereon be presented at the next meeting. C. E. Worden and H. A. Carrington were appointed such committee.

The Next Meeting.—It was voted to hold the next meeting in New Haven, on the fourth Wednesday of May, 1886.

At 6.20 p. m. the society adjourned.

In the evening Dr. G. P. Davis gave a very pleasant reception to the members of the society at his residence, 30 Woodland Street, which was attended by a large number of physicians from all parts of the State.

Thursday's Proceedings.

Annual Convention of the Society.

The meeting, although appointed for 9 a. m., was not called to order until 9.40 a. m.

Report of the Secretary.—Dr. St. John reported that during the year thirty-seven new members had been admitted to the society. Eight members had died and fourteen had removed, leaving a net gain of fifteen. The present total membership was four hundred and ninety-six.

Annual Address.—The president, Dr. Comings, chose as the subject of his annual address "Nervousness," which he proposed to treat not as a disease, but as a condition. Nervousness, the result of organic disease, he did not propose to consider in this connection. New Englanders had the credit of being the most nervous people in the world. They were also the "smartest" and most "go-ahead" people. It was a question whether we had not better go slower, be more deliberate in our movements, and become less nervous. It was desired to call attention to the extremely nervous condition of a large percentage of New England people, and to consider the cause. We had been living fast for a quarter of a century. There had been a rapid and universal increase of nervousness. In more than 40 per cent. of cases the cause of insanity was unknown. It was a condition which was not dependent on any organic lesion. This form of insanity was largely due to nervousness, and was one phase of it. A large number of our nervous patients were not insane, though they vibrated very close to insanity at times, and in states of excitement closely resembled lunatics. Nervousness was characteristic of New England people. They even took their recreation in a hurry. Americans had a chronic habit of restlessness, excitement, and push in their daily life, at home or abroad, sick or well. The peculiarity cropped out everywhere. Nervousness was growing to be a characteristic of all persons whose standard of health was below par, and it complicated the symptoms of many real diseases.

The speaker then related several illustrative cases, in both males and females, which had occurred in his own practice, and quoted one case which had been reported by Dr. S. Weir Mitchell. The first great cause of nervousness was heredity. While our domestic animals were improving in successive generations, our children were deteriorating. The Puritan stock was also deteriorating in numbers. A radical change in our physical habits perhaps accounted partially for these disastrous changes. Over-pressure in schools was also a fruitful cause of nervousness. Statistics and personal observation alike confirmed this. In our own State a large proportion of the children in the graded schools suffered seriously from overwork in their studies. They became nervous and irritable at home, lost their appetite, and ran down generally during term-time. Everything that tended to overwork or unnecessary excitement must be abandoned. We had now too much school, too little recreation, and as a result invalid children. In conclusion, with children under twelve years of age, one half the time now devoted to study should be devoted to physical development.

Report on Matters of Professional Interest.—Dr. Worden made the report in behalf of the committee. He spoke in terms of the highest praise of the Yale Medical School, and of its efforts in behalf of a higher education of medical men. In order to elevate the standard of medical education, three plans were pointed out. First, an endowment, public or private, for each college, which should make salaries secure. Second, prevention by law of the entrance of the unlearned into our medical schools. Third, regulation of the practice of medicine by law within the State. The committee recommended that an attempt to accomplish this be made before the next Legislature.

The committee had instituted a collective investigation of new remedies. As a result of the inquiries made and the replies returned, the conclusion had been reached that *Cascara sagrada* had been almost universally found to be a valuable remedy, especially in the constipation of old people. The preponderance of testimony—in the proportion of two to one—was that digitalis had no cumulative action. Convallaria was a valuable substitute for digitalis, especially when given in large doses at long intervals. The *Piscidia erythrina* could not supplant opium. Reports in regard to the oleates had been meager. They did not seem to meet the requirements of practitioners.

Cocaine.—Dr. W. H. Carmalt, at the suggestion of Dr. Worden, was invited to make a few remarks about the new anæsthetic. He said that he had used the four-per-cent. solution of Merck's or Squibb's cocaine. That of other dealers he had found less satisfactory. In experiments upon the eye the results were very striking. In removing foreign bodies its effect was excellent. In deeper operations, *e. g.*, iridectomy, it was necessary to introduce the drug deeper into the tissues, and this was not safe on account of the danger of introducing impurities. The same thing was true in the operation of cutting the tendons of the muscles in cases of strabismus. In the operation for cataract its use was almost a revelation as regarded ease of operation. The retention of the consciousness of the patient was a great advantage, and the absence of nausea also contributed to the securing of a favorable result. In small operations, such as the removal of tumors, it was excellent. Its use was also very satisfactory in throat troubles, particularly in making examinations. Here it might be applied with a brush or in the form of spray. He had seen none of the ill effects from this use of the drug which had been reported by Dr. Lefferts.

Indorsement of the President's Address.—At this point in the proceedings the following resolution was introduced:

"*Resolved*, That the Connecticut Medical Society indorse heartily the sentiments and opinions regarding the effects of over-pressure in our schools upon the health of the children, as set forth by our president in his annual address."

Essayists.—The Committee to Nominate Essayists reported the following names: Hartford County, R. M. Griswold; New Haven County, S. D. Gilbert; Fairfield County, J. W. Wright; Windham County, H. F. Hammond; Litchfield County, W. S. Munger; New London County, J. G. Stanton; Middlesex County, T. B. Bloomfield; Tolland County, H. S. Dean. The report was adopted.

Delegates from Other Societies were introduced by the president. They were Dr. James F. Brown, of Manchester, N. H., Dr. S. T. Davis, of Orleans, Mass., Dr. Munsell, also of Massachusetts, Dr. C. A. Wylie, of Vineland, N. J., Dr. William H. Palmer and Dr. William F. Hutchinson, of Providence, R. I. Each gentleman as introduced made a few pleasant remarks expressing his pleasure at being able to participate in the meeting, his interest in the proceedings, and the kindly feeling which he felt toward the profession of the State. Dr. Benjamin E. Cotting, of Boston, an honorary member of the society, was also introduced and made a short and humorous address.

Cases of Interest.—Reports of interesting cases were next called for. Dr. William C. Wile, of Sandy Hook, was the only member who responded to this invitation. He stated that he was a firm believer in a modified form of Listerism, and employed antiseptic precautions in nearly all of his operations, paying particular attention to the preparatory treatment of the patient, to cleanliness, and the spray. The latter was not directed upon the wound or the patient, but was made to fill the room with an antiseptic atmosphere. Using this method, he had performed, in three years, seventy-nine capital operations with only four deaths. These were a case of total extirpation of the uterus by the vaginal method for carcinoma, an exsection of the hip joint, an amputation at the shoulder after a railroad injury, in which death resulted from shock, and an ovariotomy. He gave the histories of eight cases, several of which were accompanied by drawings from life by Dr. A. W. Leighton, of New Haven. The cases reported by Dr. Wile were as follows:

Kelotomy at Seventy-nine.—The patient, a well-nourished Irishman, had had a large inguinal hernia for a number of years. He had worn no truss, and had not suffered much annoyance from it. After the hernia had been strangulated for twenty-four hours, ether was administered, and unsuccessful attempts at reduction by taxis were made. A considerable quantity of gas and fluid was then drawn off through a fine aspirator-needle, and taxis was again tried without avail. Kelotomy was then performed in the usual manner, adhesions, which were strong and abundant, were broken down, the sac was opened, and the intestine returned with considerable difficulty to the abdominal cavity. The patient recovered rapidly without a single untoward symptom. This case taught that even people of extreme age bore formidable operations, and recovered from grave conditions, without any special constitutional manifestations.

Amputation of an Erysipelatous Arm.—A negro, twenty-nine years of age, had been suffering for three weeks with erysipelas. At the end of the first week abscesses appeared along the inner and outer surfaces of the arm, forearm, and hand. The disease continued to advance until it involved the whole of the cellular tissue of these parts. Large abscesses also formed over the pectoral muscles. When, at the end of three weeks, Dr. Wile saw the patient, the arm and side presented a frightful mass of decomposed tissues. The patient was anæmic, exhausted, without appetite, with a high temperature and a feeble, rapid pulse. It was a most unpromising case for operation, and yet that seemed to be the only chance of saving his life. After he had taken a good dose of whisky, ether was administered. The arm was then amputated by a double-flap operation, an inch and a half below the shoulder joint. It was difficult to obtain sound skin for the flaps, as a great deal of it had sloughed off, leaving the muscles exposed. The wound was washed with a strong solution (1 to 20) of carbolic acid, a drainage-tube was inserted, and the flaps were brought together as well as possible. An incision was then made through the connective tissue from the axilla to the ilium, from which large quantities of pus were evacuated. This also was thoroughly washed out with a strong solution of carbolic acid, and allowed to heal from the bottom by granulation. The operation lasted about half an hour, and the patient rallied from the effects of it very slowly and unsatisfactorily. After a tedious convalescence he, however, finally recovered with an excellent stump.

Reproduction of the Shaft of the Tibia.—A boy, twelve years old, had had a number of sinuses on the front of his left leg for about a year. These were found to lead down to dead bone. The discharge from the sinuses had produced extreme exhaustion. After a month's preparatory treatment an operation was performed. The periosteum was carefully divided, and the whole of the shaft removed. Much diseased bone at either end was also removed with the gouge. The periosteum was preserved as nearly intact as possible. The cavity left after complete removal of the diseased bone was packed with absorbent cotton, moistened with a strong solution of carbolic acid. The boy rallied nicely from the operation. The same constitutional treatment was employed as before the operation. Healthy granulations sprang up, and there was soon evidence of the production of new bone. After two months the new shaft was sufficiently strong to allow of the fitting of a shoe, to which were attached side-braces, with joints at the ankle, which grasped the limb, just below the knee, by means of a steel padded band. By this time the external wound had healed, and the boy was allowed to walk on crutches. The tibia was now strong and well formed, and the termination of the case was all that could be desired.

Formidable Injury to the Hand.—This case illustrated the recuperative power of nature in severe injuries. An Irishman, forty-four years old, had his hand drawn between two heated rollers, weighing two tons apiece, and revolving at a distance of one sixteenth of an inch apart. The dorsal surface was but little injured, as the lower roller was not very hot and was moving slowly. The palmar surface, however, was fearfully lacerated and cooked. The bones were badly crushed, and the fingers, with the adherent flesh, were not more than an eighth of an inch in thickness. The second finger was terribly lacerated, and the end nearly torn off. The patient and his friends absolutely refused to allow any operative interference. The parts were well drawn together and dressed with a solution of carbolic acid (1 to 40), which was renewed every fifteen minutes. Subsequently an ointment of carbolic acid (1 to 20) was substituted for the solution. The patient recovered with only two stiff fingers, the second and third. The bones never fully recovered from the flattening to which they had been subjected, and after three years were not more than three sixteenths of an inch thick.

Operation for Talipes in an Adult.—A female, thirty-three years old, was born with both feet deformed in the same degree, the deformity being that known as talipes varo-equinus. During childhood she was of a delicate constitution, did not learn to walk until late, and had never been able to walk far without great fatigue. A little unusual exertion always made the feet tender and inflamed, so that she was obliged to lie in bed several days in order that they might regain their usual condition. When nine years old, while she was crossing a rye-field, the sole of the left foot was penetrated by a large piece of stubble and badly cut. It became swollen and exceedingly painful, and she was confined to her bed for several weeks. When she recovered, the position of the foot was greatly changed for the better. She commenced using it, and after several months it was restored to its natural position. Twenty-four years later Dr. Wile found the right foot frightfully distorted. On the side of this foot were large callous spots, which were inflamed and tender. She could take no comfort in walking or standing, and yet was obliged to be on her feet much of the time. The patient having been etherized, Dr. Wile divided the tendo Achillis, all of the plantar fascia, and some of the lateral ligaments and fascia. The foot was then brought into its normal position by the exercise of considerable effort, and a permanent dressing applied. This was allowed to remain for two weeks. Massage and electricity were employed for two years with the effect of developing the muscles of the leg and foot. About one month after the operation a laced shoe was fitted to the foot, to which an artificial muscle was attached. Recovery was gradual but uninterrupted. At the end of six years she was able to use her foot for every purpose for which any foot could be used, and without undue fatigue. She was able to dance upon it, and could walk fairly long distances.

Operation for Genu Valgum in the Adult.—A female, aged thirty-three, had an attack of chronic diarrhœa when eleven months old, and did not commence to learn to walk until she was four years old. At this time the inclination of the knee to turn inward was noticed. The deformity did not increase until she was eighteen years old. From this time until she reached the age of thirty she could not walk so far, and began to notice a difference in the angle at the knee, which was also painful at times. During the next three years she suffered considerable pain in the hip and ankle joints, and after walking farther than usual was apt to be attacked by a "catch" or cramp which compelled her to stand still for a moment. After a splint had been worn for several months with no benefit, Ogston's operation was performed. The inner condyle was severed from its attachments. The external hamstring muscles were divided subcutaneously. The constricting bands and contracted ligaments were also divided, the detached condyle was pushed up by the side of the shaft of the femur, and the limb was brought into its natural position. An antiseptic carbolized-gauze dressing was applied to the wound, and the whole limb enveloped in a plaster-of-Paris bandage. By the operation the deformity was entirely removed, and after several months the patient could walk without limping if the steps were taken slowly. This was believed to have been the first time that this operation had been performed in this country upon an adult.

Other cases related by Dr. Wile were: Removal of a simple cyst of the left ovary, weighing twenty pounds, from a patient sixty-two years old, with recovery; removal of a large fibrocystic tumor of the right ovary from a patient who, after the operation, was found to be addicted to the habitual use of opium, and who died on the fifth day; recovery from traumatic tetanus, following the ingestion of enormous doses of chloral, aided by inhalations of chloroform.

The Diagnosis of Insanity.—Dr. P. Cassidy, of Norwich, read a long essay discussing the question: "Are there any symptoms or criteria by which we may diagnosticate insanity from crime when made as a plea for criminal acts?" He pointed out the great importance of the subject, the uncertainty at present surrounding it, the necessity for careful and accurate observations thereon, and the possibility of making brilliant discoveries.

The hour for adjournment being near at hand, essays on "The Internal Use of the Germicides," by Dr. W. W. Knight, of Hartford; "The Treatment of Stricture of the Urethra," by Dr. Frank H. Whittemore, of New Haven; "Angina Pectoris," by Dr. S. Turner, of Chester; and "Centennial Observations on the Past, Present, and Future of the Connecticut Medical Society," by Dr. S. G. Hubbard, of New Haven, were read by title, and referred to the Committee on Publication.

Inasmuch as a greater part of the meeting had been occupied by the reading of the president's address and one essay, to the exclusion of other essays on important practical subjects, the following resolution was moved and carried unanimously:

"*Resolved*, That hereafter all papers, except the president's address, be limited to thirty minutes."

At 1.30 P. M. the society adjourned for the annual dinner, which was served at the United States Hotel.

MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Meeting of April 21, 1885.

The President, Dr. J. A. McCorkle, in the Chair;

Dr. Z. T. Emery, Secretary.

Cholera was the subject of a report from the Committee on Hygiene, embracing a paper by Dr. J. E. Baker and one by Dr. William H. Thayer. [See pages 629 and 634.]

Dr. Armor would not take up the time of the society with ætiological and other questions so well presented in the papers just read. He had, however, had a good deal of practical experience in the treatment of cholera during its prevalence in this country at its last visitation. He was at the time visiting physician to the Commercial Hospital at Cincinnati, and for weeks and months the hospital was never free from cases of cholera in all stages of the disease. His practical experience with the disease then had led him, perhaps, to study it since with more than usual interest, and, while we might possibly be taking some steps in advance in its ætiology, he doubted whether there was a corresponding advance in its general management. There was one point hinted at in one of the papers to which he could not assent, namely, that the choleraic discharges were in any sense curative, and therefore to be favored by eliminative laxatives or cathartics. He thought the theory of similarity of action was not applicable to the treatment of cholera. It appeared to him that whatever might be the nature of the specific cause —a question now so much discussed—a profound impression was at once made upon the nerves of organic life, the disease in this respect resembling very much the *algid* forms of the malignant, congestive remittent fevers of the South. The intense thirst, coldness of the extremities and surface, the great prostration of strength, the shrunken features, hurried respiration, and husky voice, accompanied by violent purging and vomiting, all pointed to a profound enervation of the nerves of organic life. The excessive prostration, which was one of the most marked features of the disease, followed, as a rule, the great drain of the serous elements of the blood, and many of the symptoms which followed were doubtless largely due to the absolute physical condition of the blood. It ceased to permeate the finer capillaries because suddenly drained of its serum. Hence the value of early treatment to arrest this dangerous stage of collapse. The more wrinkled and purplish the skin, the colder the surface, and the feebler the pulse, the nearer the patient was to the collapse stage of the disease. And it was worthy of note in this connection that the absolute body-heat not infrequently dropped three or four degrees below the normal—in which respect the condition resembled surgical shock. The whole clinical picture of the disease appeared to show that in proportion as the serous elements of the blood were largely and suddenly withdrawn from the circulation, there was a corresponding rapidity in the onset of the dangerous stage of collapse. The quantity of fluid discharged through the mucous membranes was out of all proportion to the amount absorbed—so that we had exosmosis largely predominating over endosmosis—a condition unfavorable to the absorption of medicines. In the early stage of cholera he would therefore at once resort to hypodermic injection of morphine, to which he would add minute doses of atropine—a treatment which was followed by such excellent results in sporadic cholera or cholera morbus. In the early stages of cholera he relied very much on small and oft-repeated doses of calomel combined with opium, and he preferred giving the opium in the form of the gum thoroughly triturated with sugar of milk. He had more confidence in calomel and opium thus administered—to which in some instances he added the acetate of lead—than in any other remedies. Of course hot applications to the surface, such as the essential oil of mustard dissolved in alcohol, followed by hot poultices or cloths wrung out of hot water, should be constantly employed. His experience had also led him to place much reliance in the more advanced stage upon a combination of creasote, strychnine, and turpentine. He gave it in a well-diluted emulsion of gum arabic, alternating it, in special cases, with sulphuric acid and small sustaining doses of opium. The creasote, turpentine, and acid were valuable styptics, and minute doses of strychnine tended to correct the depressed condition of innervation. After the more violent stage of vomiting and purging had passed by, repeated doses of infusion of capsicum served to lessen the gastric distress, and to facilitate the action of other remedies administered at the same time. One point had not been alluded to in the papers read, and that was the large number of patients who survived the more acute stage of the disease and died of the secondary complications, especially the complete suppression of urine. In the epidemic through which he had passed, a very considerable number died from this cause. Meningitis and gastritis were also occasional complicating elements. For suppression of the urinary secretion there was, perhaps, nothing equal to the free ingestion of water. Give the patients as much as the stomach could absorb, he said. Injections of warm and slightly saline water might also be thrown high into the bowels. Diuretics in such cases were of little or no account.

Medical Director Albert L. Gihon, of the navy, having been invited to take part in the discussion, said he appreciated the compliment, but felt that he hardly had a right to trench upon the time of the society. If this were merely a clinical discussion, he would quite agree that it was better for the naval medical officer to be seen and not heard. He was aware that the popular idea of the medical officer of the navy was that he knew nothing of the diseases of women and children, and he believed it to be a prevalent notion among the profession that he did not have a very extensive acquaintance with disease in any shape. Possibly this might be true. It was very certain that to-day there was little disease on shipboard. This, however, was because the door has been barred against its entrance. What did gain admission slipped in by unprotected or remissly guarded approaches. But this had not always been the case, as his friend and former colleguc in the navy, Dr. A. N. Bell, could testify. When they entered the naval service, a daily sick-list of fifty in a crew of two hundred and fifty was not unusual. That was in the days of wet decks, insufficient ventilation, and poor food. Since then naval medical officers had succeeded—though only after much opposition often amounting to indignity and insult—in placing ships in a better condition from a sanitary point of view. They were now, as a rule, kept clean, dry, and better ventilated; the men were well fed and well clad, and the medical officer boasted with most reason who had the fewest sick on board his ship. And this is no less true on shore, where that naval hospital was considered the most fortunate which had thinly populated wards, with only an occasional invalid breaking the long row of clean, white beds. Not only that, but captains themselves had come to be proud of the report of the medical inspecting officer who commended their clean, dry decks and healthy ship.

Now, this was germane to the subject under discussion. Recently the Surgeon-General had been applied to for the experience of the navy in regard to cholera, and, somewhat unexpectedly, he had found that the official sick reports had had very little to say about it. On further inquiry, however, it appeared that our ships had more than once been where cholera prevailed—in its very home—during the season of its greatest virulence; that they had been anchored off cholera ports and up cholera rivers, and, nevertheless, there had been few or no cases on board. It was rife all around them, yet the vessels were free from it; and this was the contribution the naval medical corps made to the history of cholera—that it was possible to live amid it, in the season when it prevailed, and yet not have it on board; by using only distilled water for drinking; by having only good food, and that properly cooked; by avoiding overwork and exposure to intense heat; by having the berth-deck well ventilated and the sleeping men on the spar-deck protected from falling dew; and by having every particle of offensive accumulation removed from the ship. This was a record of which the medical corps had just reason to be proud. A clean ship, however, was not one which presented merely clean decks and bright brass-work. It was one in which every out-of-the-way corner had been thoroughly cleared of filth and *débris* of whatever sort, the timbers opened and washed, bilge-water and bilge-air removed, the holds and even the barrels of provisions stored within them swept and whitewashed. It would not do to have white decks and attractive cabins and leave the holds and bilges filled with fœtid filth—and what was true of the ship was as true of the dwelling on shore. The house was not clean in which there were pretty parlors and neat bed-chambers, while the cellar was allowed to remain dirty and foul. He had only that morning visited a friend residing in one of the best quarters of Brooklyn. As he entered the parlor he was struck by the close, offensive atmosphere. The mother greeted him and exhibited with pride a puny, pallid, sickly child. Calling attention to the close and heavily draped windows, and the oppressive air of the apartment, he asked about the cellar, and learned that the doors and windows were kept shut to exclude the moldy smell from it, and that it had contained an inch or two of water all winter. The landlord had refused to do anything to remedy it, attributing the leakage to the neighboring houses. A similar state of things could probably be found many times over. Darkness and dampness were the enemies to health that too had to be encountered in the navy, and darkness and dampness were to be fought as vigorously on shore.

Thorough sanitation was not easily or cheaply done. A complete and effective sanitary service required a large corps of assistants and a liberal expenditure of funds. It was his belief that three fourths of the physicians of this city might be appropriately employed in sanitary work, of course properly remunerated, leaving scant occupation for the other fourth in treating unpreventable disease. He would, therefore, urge upon this society to make the subject of civic sanitation one of the prominent features of its recommendations during this present season, and if it could succeed in organizing a large corps of qualified sanitary officers with authority to enter every house and open cellars, closets, and attics, and clean them, removing filth of whatever kind, rotten planks, moldy straw, etc., having cellars drained and whitewashed, and every other possible sanitary precaution observed—there need be no fear of cholera, even should it prevail next door.

Dr. A. N. Bell said that with regard to the nature of cholera the medical profession appeared to be literally at sea; to know no more about the particular cholera-germ than it did before Koch went to Egypt and India to find the comma bacillus, which, according to the report of the English Commission and the recent discussion at the Royal Medical and Chirurgical Society, had turned out to be a *common* bacillus with no peculiar significance. In its mode of development and artificial cultivations it did not differ from ordinary putrefaction bacteria, and was common to other intestinal diseases besides cholera. Meanwhile the votaries of preventive medicine in England were urging local sanitary measures with increasing vigor. In London especially, the grandest sewerage system in the world, in point of magnitude, constructed with far more regard to engineering skill than sanitary knowledge, had but just now been discovered to be an alarming source of danger, in the event of the arrival of vessels infected with cholera. The Thames in some parts of its course, for its whole width, was described as being black with putrid sewage, looking as if unmixed and unalloyed, and the stench was intolerable; insomuch that three out of five commissioners, and their clerk, suffered from severe diarrhœa after a day's inspection. And yet Sir Joseph Bazalgette, who was knighted for this great engineering feat of making the chief water-course of the greatest city in the world an open sewer, proposed to extend the system, so that all of the sewage from the world's great metropolis might flow into the same channel. But in this purpose Sir Joseph was said to stand quite alone. Sanitarians could now afford to differ with him, and the public mind was turned back to the warnings of the more deserving Edwin Chadwick, who foretold the dangers of any such system more than forty years ago. There was now said to be a consensus of opinion that the sewage of London must be either taken to sea, or promptly subjected to such treatment in the broad daylight as would transform it into fertilizing material without danger to the public health. Ere long, no doubt, one or the other of these processes would be adopted; for, notwithstanding England's backwardness in the promotion of a healthy commerce by an enlightened quarantine system, the fact should not be lost sight of that, in the matter of local sanitation, England led the world.

In this great sewerage system of London, doubtless the best of its kind, but in the progress of sanitary science found to be radically wrong, England's own sanitarians had taught her that the danger lay not in the seething, noisome odors, when sewage was exposed to the full influence of light and air, but in the products and relations of sewage in its dark recesses, while it was *in* the sewers, and their miniature representatives—cesspools and privy-vaults—of which England was happily, by improved systems of sewage disposal in numerous places of less magnitude than London, more exempt than any other country.

"The fact is certain," Dr. Angus Smith remarked in his address before the British Sanitary Institute, 1883, "that fevers" (and there could be no doubt that cholera stood in the same relation) "have not been traced to gases of putrefaction when there has been a large amount of water and exposure to the air. But they have been found when the water is not very great in amount, and the decomposition is made under cover, as in sewers. The question arises: Is this owing to the concentration, or to the difference in decomposition in darkness, or to the better supply of oxygen? The effect of sunlight in warm countries does not allow us to suppose that the daylight always produces in vapors an innocent state, although it has a great effect in that direction when there is little water. With us, at least, innocence in the atmosphere seems to be rather something connected with the abundance of air in proportion to the impurity. This air, again, may act in two ways. It may act by rapid oxidation of the substance in water, or by dilution of the gases when formed; and the destruction of putrid matter is really very rapid when plenty of air is allowed. . . . When, therefore, you see the Clyde seething with gases of putrefaction, and when you smell it to such an extent that a feeling of loathing is produced, you may remember this, that the work of destruction is going on with wonderful rapidity, and that the enemies of life are being slaughtered there millions upon millions, never to appear again in a similar form, though other generations of them may rise up. . . .

"When nitrogenous bodies decompose with an abundance of oxygen, the nitrogen becomes oxidized and nitric acid is formed. I had long suspected that the reverse also took place, and that, when there was an excess of putrefactive matter, oxygen was absorbed and even removed from the nitrate, while free nitrogen was given off. This process I was able to verify by carrying it into the laboratory. It was clear, then, and beyond all cavil, that rivers could purify themselves in time, and organic matter be thoroughly removed. It was clear that organic substances, that germs of disease, that microbes and the smallest organisms themselves, were all subjected to this universal and unsparing attack of putrefaction and oxidation. . . . It breaks up organic compounds and destroys organisms. . . .

"We are not, therefore, to suppose that the germs of disease can resist all these efforts of nature to destroy noxious things, nor are we to suppose that an invisible germ of disease can pass on from stage to stage unaffected by the putrefaction of sewage and the action of the air. . . . At least it seems to me that we require to learn if it be true that any of the germs of disease, or which germs of disease, will live in an abundance of good air. We know that abundant dilution will render them all ineffective."*

Ever busy in the application of such progressive knowledge as the foregoing to her own borders, England, nevertheless, held herself aloof from the only measures which could, with any degree of certainty, be considered effective for the prevention of cholera transportation by maritime commerce, namely, thorough inspection, purification, and exclusion at the port of departure where cholera was wont to prevail. Having rightly rejected quarantine as it was half a century ago, England had refused to recognize it practically in the complete transformation it had undergone from mere detention and the retention of conditions promotive of disease on board ship, into active destructive measures whenever and wherever such conditions were discoverable, and to be *searched for* at the ports of departure wherever cholera or other epidemic diseases were suspected; above all, at those perennial sources of cholera—Bombay and Calcutta—and all places in close relations therewith through English commerce. In this respect, England, in her extreme jealousy, although the foremost commercial nation in the world, was the most backward in her efforts for the prevention of the spread of cholera.

In France an equally animated discussion was going on with regard to the nature of cholera, as in England, and with an equally wide diversity of opinion.

M. Proust, the Inspector-General, had availed himself of the official reports sent from the departments to the Minister of Commerce to formulate certain propositions regarding the spread of cholera, as follows:

1. Cholera was imported into the cities and towns mentioned.
2. The severity of the epidemic was in direct proportion to the unsanitary conditions of the locality.
3. Water had had a very great influence on the spread of the disease.
4. The disappearance of the epidemic in the places attacked might be attributed in part to the hygienic measures adopted and to active disinfection.

According to the "Journal d'hygiène," M. Jules Guérin had pointed out two grave errors in these conclusions, and remarked that on these depended the whole question of the importation of cholera. "On the one hand, it is said that such a person or such an article has brought cholera from one place to another, and immediately the epidemic breaks out in the infected locality. But it is easily seen that on the first day of the epidemic many cases may occur at points widely distant. On the other hand, no notice is taken of the sixty thousand or eighty thousand persons who left Toulon, Marseilles, and other places to escape the plague, and yet how few of them were the means of spreading the disease!"

In Italy sanitarians recognized the fact that the sanitary regulations of the country were sadly defective. The Minister of the Interior had been questioned regarding existing laws, and their efficiency for the prevention of another outbreak of cholera. The Minister, Depretis, had replied that the laws in existence gave full power to the Government to guard the public health, and at the same time promised, at an early day, to present a bill providing for additional security. He recognized the justice of the complaints regarding certain quarantine hospitals, and assured the people that every effort would be made to find more suitable situations for them. Professor Guido Bacelli urged the adoption of measures by the Government to prevent the latent germs of the cholera from developing into a new epidemic during the coming summer. Here the inquiry ended, the Chamber seeming satisfied with the promises of the Ministry that something would be done to prevent the lamentable scenes witnessed at Genoa, Naples, and Spezia last year.

In Spain, at San Felipe de Jativa, in the Province of Valencia, according to a report under date of March 30th, an epidemic was prevailing, in which there had been within a few weeks about one hundred cases "resembling cholera," of which fifteen had proved fatal, and within twenty-four hours from the time of the attack. The prospect of another invasion of cholera greatly alarmed the people, and the disease was promptly proclaimed by the authorities to be *cholerine* only, and of local origin. Meanwhile, according to more recent reports, the same was prevailing at Alcira, in the same province, and there, too, it was said to be of local origin, due to drinking water from a canal tainted by paper-mills that used suspicious rags.

The practical conclusions deducible from the most recently published opinions of the foremost sanitarians in regard to the prevention of cholera and other epidemic diseases were: That while surface filth of all kinds was odious and more or less noisome, and should therefore be prevented, filth stowed away in dark privy-pits, cesspools and retaining sewers, was more dangerous; that the old sewerage systems of Europe and the prevailing systems in the United States, subject as they were to obstructions and insufficient flushing, and without thorough ventilation, were a menacing source of danger in the event of cholera, and a prolific source of other epidemic diseases at all times; and that, in default of an effective international quarantine system comprehending a thorough inspection and preventive service at the ports of departure, the utmost vigilance and promptest possible preventive measures were required at all ports of arrival.

Dr. Conkling thought it would be unfortunate if the admirable papers to which the society had listened, and the discussion which had followed, should increase the apprehension felt by many as to the prevalence of cholera in the city during the coming summer. Many families were making their arrangements to be absent from the city. The questions were: Was it safer to brave the dangers of cholera—which were but a possibility—or the dangers of malaria, which were very probable, if the location was within a radius of fifty miles from the city? Whether a city house in perfect order, and a dietary under one's control, were not safer than the crowded apartments of a country hotel or boarding-house, with such food as was there furnished, and such sanitary arrangements as were there in vogue? It would be well if the members would assist their patients in deciding the matter.

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* Address delivered in September, 1883, to the Congress of the Sanitary Institute of Great Britain, held at Glasgow, by Angus Smith, F. R. S., etc.

A certain amount of apprehension seemed necessary for sanitary reform. The fact that cholera prevailed in some European ports in 1865, and its probable presence here the following summer, had induced discussion that resulted in the passage of the Metropolitan Health Law in March, 1866, the best health law ever enacted, and the basis of all sanitary law in the several States. Fortunately for the enforcement of the law, cholera did prevail, and it was possible to enforce many of its provisions, though there was much opposition. The average American regarded his house as his castle, and up to that time believed he could do about as he chose with his own home. It took some time for him to learn that there was a higher law than his will, and that, for the common good, health officers could compel him to clean his cellar, cesspools, and vaults, and keep them clean. Since that time there had been a great advance, and now, the householder acting in harmony with the officials, our city was in better condition to fight an epidemic than ever before.

There was time to allude to one necessity felt by all—the proper removal of garbage. Previous to 1866 ashes and garbage were mixed in the same barrel, and the compound was used to fill sunken lots. All attempts to have them kept separate failed until the police arrested the cartmen at the dumping-ground. Our sidewalks were now lined with tin pans, broken boxes, and tubs filled with garbage waiting for the cartmen, who arrived at such uncertain intervals that the material became not only a disgusting sight, but an actual source of ill-health. There was a better way. It should be burned in each kitchen. For many years there had been no garbage-pail in the speaker's house. With care the refuse could readily be consumed, and so a source of annoyance and sickness avoided and a large amount of money saved to the city.

Dr. Stub remarked that at Toulon, in the first stages of cholera, opium, bismuth, etc., were administered, but in the algid stage it was found that opiates in any shape or form were harmful. In place of morphine, small doses of the sulphate of atropine, administered subcutaneously, had a better effect. In Naples a solution of hot water and table-salt by injection, and hot baths, had been very much in vogue, and had produced decidedly beneficial effects. Calomel also had been used with good results. He could not agree with one of the gentlemen that the comma bacillus was a *common* bacillus. The English commission having in charge the investigation of the cause of cholera were sadly deficient in knowledge of the methods that Koch employed. Koch's commission had made a hundred or more post-mortem examinations, while he believed the English commission investigated only twelve cases. Unintentionally, they were ignorant of Koch's methods, and therefore came to a wrong conclusion. It seemed that of late some of Koch's opponents had come around to Koch's doctrine. The most eminent of these opponents was Dr. M. Emmerich, who declared that he had found another micrococcus which caused cholera. It had been proved that the bacillus of Koch did not live in a temperature below 80° or above 103°, 104°, or 105° F. Therefore, in the treatment of cholera, acidulated water above this temperature should be used as an enema in the beginning of the disease, perhaps with the addition of small quantities of the bichloride of mercury or carbolic acid. Professor Cantani, of Naples, and Professor Samuel recommended subcutaneous injections of a solution of table-salt in distilled water of a temperature of about 100° F.

Dr. Stuart referred to the fact that one of the questions asked candidates for registration at the Directory for Nurses was, Whether they were willing to take care of cholera patients? Quite a number of them had answered the question in the affirmative.

Miscellany.

Medicated Soaps.—The following is an abstract of an interesting paper on "Soaps, especially Medicated, in Diseases of the Skin," by Dr. John V. Shoemaker, of Philadelphia: The writer first discussed at some length the use of soap in health and disease, after which medicated soaps in disease were carefully considered. It was pointed out that both potash and soda soaps could be combined with various chemical substances to form medicated soaps of either the soft or the hard variety. Soap so prepared was shown to be an easy and convenient vehicle for cutaneous applications.

The value of potash soap medicated with tar, naphthol, carbolic acid, salicylic acid, sulphur, balsam of Peru, mercury, and other substances was next cited. The writer finally added that soda soap, medicated, had even a more extensive use in the treatment of diseases of the skin than potash soap into which certain drugs had been introduced. Soda soap could be medicated with a variety of substances that could also be conveniently and easily brought in contact with the diseased surface. It was not only a useful and cleanly vehicle for applying medicine, but it also rid the skin of all abnormal products, and removed the epidermis in a mild way, exposing the sensitive skin. Soda soap, like potash soap, should always be employed on a diseased surface with precaution, especially in beginning its use, whether it was the ordinary or the medicated variety. Its effect should always be tried on a small spot, and, if acceptable, it could be used over the entire diseased surface. In some diseases a marked and beneficial effect would follow its application, and, by its repeated employment, it would readily be apparent how frequently it should be used. Sometimes medicated soap was well borne every day, or once or twice a week. Occasionally its use once in two or three weeks was sufficient, or only as occasion might require for carrying off the epidermis, for stimulating the skin, or for the removal of irritating secretions, crusts, scales, or extraneous matter. Again, it might happen in some cutaneous diseases that medicated or any form of soap was not well borne, or absolutely contra-indicated by the abnormal condition of the skin. Attention to the precautions already alluded to, together with a general clinical knowledge of what was suitable or unsuitable to use, from the change in the skin, should serve as a sufficient guide as to whether medicated soap should or should not be employed.

A variety of medicinal substances and combinations had been tested by him in soda soap for some years, both in private practice and in dispensary and hospital service, with the effect of producing the following medicated soaps, which have been found advantageous, were manufactured by W. T. Baker & Co., of Philadelphia, and were now largely used in the Philadelphia Hospital for Skin Diseases. Each soap referred to was divided into pieces or cakes that had an average weight of three ounces and a half, or 1,680 grains.

Alum Soap.—Sapo aluminis, 10 per cent., was most useful in hyperidrosis and seborrhœa oleosa. It checked or assisted in relieving the discharge, and often brought the diseased surface into a condition suitable for other remedies. Many cases of pustular eczema, particularly in the subacute stage, were benefited by it. It freed the surface of crusts and scales, and aided in lessening the formation of pus. It was very efficient in all indolent conditions of the integument, as in lupus, cancer, and scrofulous and syphilitic skin affections. It had both a stimulating and an astringent action on ulcers, and would be found particularly good for bed-sores and all weakened conditions of the skin from illness, or any irritation from friction, especially in the folds of the skin of stout persons, by giving strength and vigor to the skin.

Arnica Soap.—Sapo arnicæ, 10 per cent., was very good to use in sore nipples, and in many inflammatory affections around the mucous outlets of the body. It was likewise serviceable in cleansing boils, carbuncles, and many of the pustular skin affections. The irritable and sensitive condition of the skin that might exist during the course of these diseases was frequently relieved by its use. It was also an excellent application for abrasions, wounds, and bruises of the integument; soreness or pain, if present, was usually lessened or removed.

Boro-Glyceride Soap.—Sapo boro-glyceriti, 10 per cent., was preferable to either borax or boric-acid soap. It possessed antiseptic and deodorant properties, and was particularly applicable for the destruction of minute organisms. It was valuable for cleansing wounds, ulcers, suppurating, sloughing, or gangrenous surfaces, lessening inflammation, and preventing the action of atmospheric germs. General and local pruritic conditions of the skin, especially pruritus of the genital organs and the anus, were usually benefited and often relieved by its use. It was valuable in acne and in seborrhœa, freeing the surface in the latter disease of crusts or scales, opening the orifices of the sebaceous follicles, and lessening the accumulation of the abundant secretion. The roughened, reddened, and irritable state of the skin that was at times present in the latter disease and in acne rosacea was often removed by the use of this soap, and it might give a clear and healthy complexion.

Camphor Soap.—Sapo camphoræ, 10 per cent., had primarily a stimulant, and at times an irritant action, which was succeeded by an anodyne effect. It was most frequently used for the relief of the pruritus of eczema, chilblains, and other irritable affections of the skin.

Carbolic-Acid Soap.—Sapo acidi carbolici, 5 per cent., had at first a stimulant action, followed usually by an anæsthetic effect. It had been largely employed for its antiseptic action in wounds, and all suppurating sores, and the accompanying itching was often allayed by it. It was excellent for chronic eczema, psoriasis, and many other cutaneous diseases, but, on account of its unpleasant and penetrating odor, many persons preferred naphthol and salicylic-acid soaps.

Chamomile Soap. — Sapo anthemidis, 10 per cent., was a mild stimulant and astringent, possessing an agreeable aromatic odor, and being very acceptable in many inflammatory affections. It was excellent in intertrigo or chafing, and in dermatitis, seborrhœa, hyperidrosis, and bromidrosis, while it was particularly valuable, both for its medicinal virtues and its aromatic odor, in all conditions of excessive secretion and ill-smelling sores. It was frequently rendered more effective by the addition of sulphur, according to the following combination:

Chamomile-and-Sulphur Soap.—Sapo anthemidis sulphurisque, 10 per cent., possessed the properties of both remedies in the combination. In seborrhœa sicca on any part of the body, but more particularly on the scalp or portions covered with hair, it had a most decided effect in carrying off the scales and crusts from the surface. Loss of hair, so frequent from dandruff, or seborrhœa sicca, could be relieved or checked by the use of this soap. The greasy, shining complexion, attended with numerous small elevations or pimples, a form of acne, common to young women from either gastric or menstrual disorders, often yielded to applications of it, and it assisted in restoring the skin to its healthy transparent state.

Eucalyptol Soap.—Sapo eucalyptoli, 5 per cent., had not only stimulating and astringent, but also pleasant balsamic qualities. It was, therefore, a useful disinfectant application to all foul-smelling wounds and ulcers. In fœtid perspiration it was very efficacious.

Naphthol Soap.—Sapo naphtholi, 5 per cent., was one of the most effective of all the medicated soaps. It was useful in very many cutaneous diseases, especially on account of being free from odor and having stimulating, astringent, and some anæsthetic effect upon the skin. Animal parasites on the skin or in the clothes were usually destroyed by its application. Lousiness, particularly of the pubic or axillary regions, could be easily, cleanly, and quickly destroyed by naphthol soap, superseding the filthy mercurial ointment. Scabies or itch was sometimes also eradicated by it, and it was a valuable adjuvant to other remedies. The bites or stings of many insects and animals could often be cured or relieved by its use. It often acted well in eczema, especially the subacute and chronic variety, adding much to lessen the infiltration and itching. Psoriasis, pityriasis, and ichthyosis were often benefited by it. It had decided antiseptic properties, and was, therefore, of great utility in all offensive discharges from the skin. Fœtid perspiration was not only controlled, but often cured by its use.

Salicylic-Acid Soap.—Sapo acidi salicylici, 4 per cent., was excellent for its antiseptic action, and was by far superior to carbolic-acid soap. Its freedom from the irritating quality and disagreeable odor of the latter soap made it preferable to it in every way. It was admirable for toilet purposes, and had proved serviceable in thickened conditions of the epidermis of the plantar, palmar, and extensor surfaces. It assisted in softening the epidermis, and in making the skin more natural and pliable. Sycosis and pustular eczema were generally benefited by its use, particularly when the hair became matted together and was accompanied with a fœtid odor. It was likewise serviceable in fœtid perspiration and all foul-smelling wounds or sores.

Sublimate Soap.—Sapo hydrargyri chloridi corrosivi, 1 per cent., was no doubt better known by the former term, as the latter had a bad signification in the minds of many for whom it might be necessary to prescribe it. It was, like carbolic-acid, naphthol, and salicylic-acid soaps, a valuable antiseptic. In truth, it might be preferred by many who now regarded the corrosive chloride of mercury as a better antiseptic than those already named, and it could be advantageously employed in the same class of affections. Sublimate soap might, however, be objected to for fear of producing salivation; but the risk with so small a quantity of mercury in the soap was extremely slight, and up to the present time he had never seen this effect. It was valuable in animal parasitic diseases, such as phtheiriasis, or lousiness, scabies, or itch, and for destroying insects of all varieties that might infest the body. Freckles, pigmentary deposits, especially chloasma, and yellowish-brown or blackish patches on the skin, were greatly relieved and sometimes removed by its employment. The red and roughened state of the skin that might follow the eruptive fevers, such as small-pox, might be improved by its use. It assisted in overcoming an unhealthy state of the skin, and in producing a clear and brilliant complexion. Sublimate soap was also one of the best agents in all kinds of itching, and might afford the greatest relief sometimes in both pruritus ani and pruritus pudendi. It was, likewise, markedly serviceable in the various syphilitic skin eruptions.

Tar Soap.—Sapo picis liquidæ, 10 per cent., had long been employed with great advantage in many forms of cutaneous disease. Eczema and psoriasis, more especially the chronic varieties, were frequently much improved by the use of tar soap. It assisted in keeping the skin active, and often lessened the infiltration and relieved the itching. It was useful also to remove the scales in pityriasis and ichthyosis. Tar soap or any of its compounds could be employed in many diseases of the skin that had been referred to in considering naphthol soap—the former being inferior to the latter on account of its disagreeable odor, and the irritant effects that sometimes followed the application of tar to the skin.

The principal medicinal combinations with potash and soda soap had now been fully considered, and it simply remained to briefly refer to the following additional medicated ammonia and soda soaps, which had rather a limited use:

Amber Soap.—Eau de luce. A liquid soap which had as its chief ingredients tincture of oil of amber and balsam of Gilead, with water of ammonia. Used in enlarged glands, moles, warts, etc.

Balsam Soap.—5 per cent. Used in indolent ulcers, sinuses, abscesses, etc.

Elder-Flower Soap.—Sapo sambuci florum, 10 per cent. Used in intertrigo, rosacea, sunburn, etc.

Ergot Soap.—Sapo ergotæ, 10 per cent. Used in eczema, acne rosacea, etc.

Glycerin Soap.—Sapo glycerini, 15 per cent. Used for roughness of the skin, chaps, pityriasis, etc.

Naphthol-Sulphur Soap.—Sapo naphtholi sulphurisque, 3 per cent. of naphthol and 10 per cent. of sulphur. Used in scabies (itch), phtheiriasis (lousiness), the presence of insects of all kinds on the skin, eczema, psoriasis, seborrhœa, hyperidrosis, bromidrosis, etc.

Sulphur Soap.—Sapo sulphuris, 10 per cent. Used in acne rosacea, etc.

Iodine Soap.—Sapo iodi, 3 per cent. Used in syphilitic and scrofulous skin affections, old granulations, etc.

Iodide-of-Sulphur Soap.—Sapo sulphuris iodidi, 3 per cent. Used in acne indurata, chronic ulcers, freckles, yellowish-brown or blackish patches on the skin, etc.

Kino Soap.—Sapo kino, 10 per cent. Used in eczema, rosacea, ulcers, etc.

Lead Soap.—Sapo plumbi, 3 per cent. Used in boils, carbuncles, abrasions, bed-sores, etc.

Tannin Soap.—Sapo acidi tannici, 3 per cent. Used in seborrhœa oleosa, excessive sweating, ulcers, granulations, etc.

Tannin-Balsam Soap.—Sapo tanno-balsamicus, 2 per cent. of tannin and 5 per cent. of Peruvian balsam. Used in wounds, ulcers, chilblains, etc.

Thymol Soap.—Sapo thymoli, 3 per cent. Used in ulcers, wounds, abscesses, sinuses, pustular eczema, etc.

Turpentine Soap.—Sapo terebinthinæ compositus. This soap, known as Starkey's, was composed of equal parts of potassium carbonate, oil of turpentine, and Venice turpentine. Used in chilblains, syphilis, psoriasis, etc.

Wintergreen Soap.—Sapo gaultheriæ, 3 per cent. Used in eczema, psoriasis, lichen, acne, etc.

Witch-Hazel Soap.—Sapo hamamelidis, 10 per cent. Used in fœtid perspiration, eczema, loss of hair, etc.

Soap, especially the medicated, as had been shown, was very often valuable in the treatment of the various diseases of the skin, provided it was properly and judiciously used. It was powerful to do good, and equally so to effect harmful results. The greatest care and the utmost precautions, as had already been pointed out, should always be exercised in applying it to a diseased surface, and too much must not be expected for soap to accomplish. The manufacturer, the merchant, and too often the physician, maintained that this or that medicated soap would remove or cure certain skin diseases, whereas on trial they would frequently be found to utterly fail. Soap, therefore, as a remedy *per se*, seldom cured cutaneous affections, but as an adjuvant it was one of the most valuable agents that we possessed.

THERAPEUTICAL NOTES.

Electricity in the Treatment of Intestinal Obstruction.—Boudet ("Progrès méd.") reports seventy cases which were treated in this manner, with only seventeen failures. He prefers the constant current, which he applies in the following manner: A metal tube connected with the battery is inserted into a gum-elastic rectal tube which has a lateral opening near its end. The two tubes are passed into the gut as far as possible, and a quantity of salt water is then injected; this fluid forms a safe and efficient electrode, and prevents ulceration of the mucous membrane from direct contact of the pole. The other electrode is placed over the small of the back. A moderate current is employed, the *séance* lasting from five to twenty minutes. With the exception of simple atony, the writer does not express himself clearly concerning either the causes of obstruction or the *rationale* of his method of treatment. He does not regard acute enteritis or peritonitis as contra-indications to the use of electricity. Even in cases of actual stenosis from ulceration or malignant disease he has great faith in the power of the constant current.

Decoction of Lemon in the Treatment of Urethritis.—Rebatel ("Annales de syphiligr.") commends this simple remedy, which was first suggested by Mannino. It is said to destroy at once the vitality of the gonococcus. Three fresh lemons are cut into small pieces and thrown into about ten ounces of water, which is reduced by boiling to three ounces. With this fluid three or four injections should be employed daily. After two days a fresh decoction should be made. The following combination may be used instead:

Salicylic acid	1 grain;
Citric acid	25 grains;
Water	8 ounces.

Two injections are to be made daily.

The Uncontrollable Vomiting of Pregnancy.—Dr. Graily Hewitt has a paper on this subject in the last volume of the "Transactions of the Obstetrical Society of London." Attributing the cause of the phenomenon to "rigidity of the lower segment of the uterus," he infers that in the majority of cases the cure is spontaneous. Since, according to the author, the uterus is usually in a condition of anteflexion or anteversion, the indication will be to overcome this displacement by keeping the patient upon the back as much as possible. A cradle, or inflated rubber, pessary may be useful in keeping the organ in its proper position. If replacement of the uterus does not relieve the symptoms, he next recommends that the cervix be dilated with the finger or by instrumental means. This failing, especially in cases of retroflexion with impaction, there is nothing left but to induce abortion.

Glycerin in Dryness of the Tongue.—According to Surgeon-Major Cotter ("Indian Med. Gaz."; "Med. Times and Gaz."), the excessive dryness of the tongue and fauces observed in acute febrile diseases may be relieved by painting the parts with glycerin. The sensation of thirst is relieved and the patient is frequently freed from a good deal of discomfort and annoyance. The writer suggests that the application may increase the secretion of saliva, and thus dissolve the sordes.

The Early Use of Atropine in Convergent Strabismus.—Boucheron ("Arch. d'ophth."; "Practitioner") maintains that, if both eyes of a child having convergent strabismus are kept under the constant influence of atropine, amblyopia in the affected eye is prevented.

An Antidote to Resorcin.—Andeer ("Wien. med. Presse;" "Practitioner") says that the best antidote in cases of poisoning from over-doses of this drug is old Bordeaux or Burgundy wine. He disapproves of both warm baths and emetics, as recommended by some writers.

Permanganate of Potassium in Skin Diseases.—Hüllmann ("Ctrlbl. f. d. ges. Therap."; "Arch. f. Kinderheilk.") recommends bathing in a solution of permanganate of potassium (two grains to a pint of water) in cases of eczema, intertrigo, prurigo, and the exanthemata. The patient is advised to remain in the bath until the violet color of the solution changes to a brown. This treatment is highly praised in the desquamative stage of measles and scarlet fever.

Chromium in the Treatment of Syphilis.—Güntz ("Memorabil.") speaks highly of this drug in cases of syphilis which resist treatment with mercury, and in which the constitution has been badly broken down by the disease. Not only is there a complete absence of general disturbance after the use of chromium, but, according to the writer, the cure is rapid and complete. The daily amount which he employs is half a grain of potassium bichromate, divided into four doses. Güntz denies that headache ever follows the use of the drug.

An Application for Syphilitic Eruptions.—Mauriac ("Union méd.") suggests the following:

Chloral hydrate	2 drachms;
Tincture of eucalyptus	5 "
Distilled water	2 pints.

To be applied to mucous patches and ulcerating syphilides.

Corrosive Sublimate a Safe Antiseptic.—Tänzer ("Cntrlbl. f. Gynäk.") has written a long paper on this subject, in which he maintains that the general alarm in regard to the toxic effects of the sublimate solution is somewhat premature. He insists that the fatal results reported from its use have all been due to the employment of too strong solutions.

A Mixture for Gastralgia.—Lasègue and Regnauld ("Union méd.") prescribe this mixture:

Orange-flower water	5 ounces;
Chloroform water	15 "
Distilled water	9 "

Dose, a dessertspoonful every fifteen minutes until the pain is relieved.

A Mixture for Cardiac Dyspnœa.—Sée (*Ibid.*) suggests this syrup:

Tincture of iodine	75 minims;
Syrup of horse-radish, Syrup of poppy, each	5 ounces.

Dose, a teaspoonful three times a day.

A Rubefacient Liniment.—Stuart (*Ibid.*) recommends the following liniment in lumbago:

Tincture of capsicum	1 ounce;
Olive-oil	6 ounces.

A Lotion for the Face.—Vigier ("Gaz. hebd. de méd. et de chir.") gives the following formula:

Boric acid	15 grains;
Honey-water *	5 drops;
Rose-water	3 ounces.

To be applied morning and evening.

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* Containing honey, citron, coriander, rose, and several other ingredients.

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Lectures and Addresses.

THE ANNUAL ADDRESS

BEFORE THE

AMERICAN CLIMATOLOGICAL ASSOCIATION.*

By ALFRED L. LOOMIS, M. D., LL. D., NEW YORK,
PRESIDENT.

GENTLEMEN OF THE AMERICAN CLIMATOLOGICAL ASSOCIATION: If I understand aright, this association was organized that representative medical men from different sections might come together and, from their different views and experiences, endeavor to determine the therapeutic value of the various localities which have been alleged to have the power of arresting or curing chronic diseases of the respiratory organs, and to discuss their ætiology, pathology, and treatment. If I had been present at its organization I should have advocated giving it a broader scope, and including in our studies diseases of the vascular system and the therapeutic value of our mineral springs. It is hardly necessary that I should recite to you all that has been and is being accomplished in these fields by our European brethren. One only needs to read the history of almost any chronic disease from the pen of recent continental writers to realize how large a part of their treatment is summed up in advice to spend longer or shorter periods in this or that health resort, or "take a course at some mineral spring." That recoveries from very many chronic ailments are reached by such sojourn no one will question. The hundreds from our midst who visit European sanitariums each year is a testimony that either they have something in climate and mineral waters which we have not, or that the medical mind of Europe has systematized and rendered efficient these powerful therapeutic agents. A careful study of this subject has convinced me that neither in climate nor in mineral waters are they superior to us, but in their more thorough system of employing these agents. The profession at large on the Continent are far more intelligent as regards differences in climate and the composition and effects of the different mineral springs in Europe than American physicians are of those of our own country. The profession in this country require education in these matters. It is only a few years since we have made any systematic attempts to gain definite knowledge in regard to our health resorts and mineral waters. It is the province of this association to stimulate the profession to greater zeal and a more harmonious working in this important field. Through properly organized committees it will determine the real merits of the various health resorts which at present, and may in the future, claim our patronage and support. It will endeavor to place those that are found worthy of its indorsement under the supervision of intelligent physicians, who, by the aid of local authorities and perhaps by legislative enactment, may render them more efficient for the cure of those diseases to which they are especially adapted. In the more important of such health stations the benevolently disposed will be urged to establish and endow sanitariums, where the poor, or those who are not able to fully meet the expenses of a sufficiently long stay to reach a cure of their maladies, can be aided and taken care of. By the carefully kept records of such sanitariums a more definite and positive opinion of the relative advantages of different health stations can be reached.

As an indication of what may be accomplished in the way of establishing such charitable sanitariums, I will give the history and a brief description of the "Adirondack Cottage Sanitarium" and the plans which have been adopted by its managers as they have been transmitted to me by Dr. E. L. Trudeau, who deserves the credit of being the pioneer in this noble work in this country.

The plan for the Adirondack cottages was first brought to the attention of several visitors to that region in the summer of 1883. The project at once met with such hearty responses that it very soon took a substantial form. Donations in money were freely offered, physicians promised their professional services, and gentlemen residing in the Adirondack region for health readily assumed the superintendence and management of the future institution. As a result, the unpretending establishment which now stands within a mile and a half of Saranac Lake village sprung into existence. It represents an attempt to put within the reach of patients of moderate means, suffering with pulmonary disease, the benefit to be derived from the Adirondack climate, a well regulated out-door life, and proper medical care. It is not intended as an asylum for hopeless cases, but as a means of restoring to health those in the early stages of pulmonary phthisis. The cottage plan has been adopted, each cottage to be tenanted by two or, at the most, four patients. The cottages are clustered around a commodious main building, where all the meals are served, while its upper floor is arranged for those invalids that require constant care. It is neither altogether a charitable institution nor a self-supporting hospital, but embodies some of the features of both—that is, the expenses are to be met by yearly subscriptions of benevolent persons, and in part by weekly payments made by the patients themselves. Five dollars a week has been fixed as the amount which for the present will be required of patients. This sum is to cover all expenses. Should the yearly subscriptions increase sufficiently, this will be reduced to the lowest sum that will enable the managers to meet the expenses of the institution. As no salaries are to be paid except for manual labor, patients will reap the full benefit of the yearly subscriptions. Invalids will be urged to exert themselves in flower-raising, for which every facility will be furnished in the future, as both an agreeable and a healthful pastime, and an additional source of income to the establishment. It is proposed that some well-equipped tents shall be raised on the grounds, that the benefit of camping may be within the reach of those for whom such a mode of life is advisable. The site of the Sanitarium seems especially adapted to its requirements. It is on a small plateau about two hundred feet above the valley of the Saranac River, from which one of the most extended mountain views of the region may be had. It is a sunny spot, facing the south-east, and backed by a high wooded hill, which shelters it completely from the prevailing winds, while its sandy soil and gentle slope insure dryness and perfect drainage. Allowance for the growth of the establishment has been made in the plans of the main building, so that the simple erection of more cottages, as they are needed, is all that is necessary to enlarge the scope of the undertaking. Its present capacity is limited to twenty patients. It is incorporated under the name of Adirondack Cottages, under the control and management of a Board of Governors and a House Committee. Dr. Alfred L. Loomis, of New York city, is examining and consulting physician, Dr. E. L. Trudeau, of Saranac village, attending physician, and Dr. C. F. Wicker, of Saranac village, assistant physician.

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* Read at the second annual meeting, held in New York, May 27 and 28, 1885.

I have presented to you this report from Dr. Trudeau with the hope that it may stimulate other resident physicians at our different health stations to similar charitable work, and that some action may be taken by this association at its present meeting on this important subject. May we not hope that, in the near future, this association will become the forum for the discussion of those vital questions in the ætiology and therapeutics of diseases of the respiratory and vascular organs which are to-day engaging so largely our most brilliant workers in the field of medicine? Let it be a place where good and true men can meet on a common ground, with no medical politics, no ethics, no jealousies, with but one end in view—real advancement in our knowledge of disease. If this association is to live, let it have a scientific record.

The Influence of the Recent Views of the Ætiology and Morbid Anatomy of Pulmonary Phthisis on its Climatic Treatment.—As an introduction to the work which will engage us at our present meeting, permit me to say a few words on this subject.

There has, perhaps, never been a period when there was so great uncertainty in the minds of the profession in regard to the ætiology and morbid anatomy of phthisis as the present. For one class of observers pulmonary phthisis is an inflammation of the pulmonary substance, which may or may not be complicated by tubercle. Another class maintain that tubercle is the primary and essential lesion of all phthisis. Still more recently certain investigators maintain that there is a specific material which may or may not be accompanied by the histological elements of tubercle, but which always has a specific form of *bacillus* as the sole exciting cause of its development.

Whatever conclusions may finally be reached as to the exact nature and cause of phthisical processes, clinically we must always recognize two varieties of phthisis:

First, acute phthisis, the morbid changes of which are a complex of inflammation and the rapid development of tubercular tissue in the lung substance.

Second, chronic phthisis, the essential pathological changes of which are consolidation and induration of lung substance; tubercle may or may not be its primary lesion, but it is usually present in its advanced stages. During the past two years my own examinations of the lungs of those who have died with the clinical history of chronic phthisis have convinced me that, in advanced phthisical processes, tubercular tissue can always be found, but I am not prepared to state that the development of tubercle is the primary lesion in all or in the majority of cases.

In very many I am confident that a non-specific infiltration of the lung precedes tubercular invasion and furnishes suitable soil for the development of tubercle, as well as for the growth and multiplication of tubercle bacilli when they are present.

Koch's statements that the repeated entrance into healthy lungs of small numbers of the specific bacilli of tuberculosis will cause chronic phthisis, and that the simultaneous admission of numerous bacilli will produce acute phthisis, stand as yet unproved. As Beichart and Segel state, it remains to be shown how and when, in any individual case, the microbes effect their entrance into the system, or why their entrance takes place so readily in one case and not in others. Why do a large number of persons resist their entrance under seemingly the most favorable conditions for their introduction?

If phthisis has its origin in an infection, it seems evident, from a clinical as well as a pathological standpoint, that certain preparatory tissue-changes must take place in the lungs before the infection can be received, or, in other words, before bacillary invasion can become effective. Both experiments and observation seem to show that these bacilli, whether developed inside or outside the body, can not thrive unless certain conditions are present. We ought to welcome every new method of investigation, and do nothing to discourage the boldest flights of pathological speculation. But the crucial test for all such speculation must always be a clinical one. We must hold rigidly to facts drawn from direct observation during life, to our clinical facts, and never endeavor to interpret them so that they shall accord with either our speculations or our theories. By this standard there are three factors which may be regarded as preparatory to the phthisical infection, if such infection shall be found to exist:

First, a state of constitutional feebleness, either inherited or acquired, which diminishes the resisting power of the individual and renders him abnormally susceptible to diseased processes.

Second, a condition of the upper portion of the lungs, marked by feebleness and slowing of the circulation, which predisposes the individual to phthisical processes.

Third, the establishment of localized inflammatory processes in the bronchi, lung substance, or pleura.

I think no one will question that the treatment of phthisis which is to-day attended by best results is that which has for its object the invigoration, by every means possible, of the general health, and the avoidance of those conditions which predispose to or favor local pulmonary inflammations. If we appeal to clinical medicine and ask how these therapeutical indications are best reached, the unqualified reply is, by good hygiene, good food, a suitable climate, and those medicinal agents which promote and maintain that normal performance of the digestive and assimilative processes which is essential to healthy nutrition. At the present day I think that the majority of careful and unprejudiced observers are united in the opinion that the most important of these agents is a *suitable climate*, which acts therapeutically in arresting early phthisical processes in two ways:

First, by its invigorating effects on the general system and its power of improving defective nutrition.

Second, by its local effects in preventing diseased processes in the lungs, and in arresting such processes after they are developed.

Before proceeding further, let us inquire what we are to understand by the term *climate*. Dr. Parkes defines it as the sum of the influences which are connected with the solar agencies, the soil, the air, and the water of a place. Dr. Billings, in his recent article in Pepper's "System of Medicine," understands by the term climate the sum of meteorological influences, the most important of which are temperature, humidity, and winds. Dr. Schreiber, in his address before the Austrian Meteorological Society, states that the term climate, which has hitherto been employed to denote a vague, indefinite specific, of which no reliable account could be given, appears now as something infinitely clever and very simple, being, in fact, nothing more than pure air uncontaminated by miasms, with no organic or inorganic substances, and one in which water precipitation or rain is not unduly deficient. He shows that it is neither warm air, nor cold air, nor dry air, nor moist air, that is wanted, but an abundance of pure air.

To assume that any particular climate exerts a specific influence upon pulmonary phthisis is absurd. That certain climates are better than others there can be no question, but in regard to the climatic constituent which makes the difference there is a great diversity of views.

Dr. Jaccoud, in his "Lectures on the Curability of Phthisis," states that information derived from writings on this subject can not take the place of knowledge furnished by direct observation. For the reason that two places possessing similar climates may have very different therapeutic values, and this solely on account of their topographical situation, the meteorological tables of a locality give no reliable information on this subject.

Again, he states that the impressions made upon the organism by different climates are to some extent independent of the certain and describable phenomena which constitute the climatology of a region. With similar mineral waters, barometrical, hygrometric, and anemological conditions, two places may still be most dissimilar in their effects, either upon the healthy person or upon the invalid. It is vain to seek in the table of atmospheric changes for the explanation of that special impression which the climate of a region makes upon the affected organism—an impression which, in fact, is indefinable, and of which the cause can not be ascertained; it must be felt to be understood; this fact constitutes one of the fundamental difficulties of the climate problem. As a consequence, we have one class of observers maintaining that high altitude acts therapeutically on diseased lungs by the lightness of the air, which relieves the lungs from undue pressure, and thus permits them to gradually return to their normal state. Others hold the view that the rarity of the air induces more rapid respiration, and in this way tends to restore the diseased lungs to their former healthy elasticity. Others again contend that solar radiation is the great curative agent. But *purity of atmosphere and consequent freedom from germs* seem to me to offer a more satisfactory solution of this much vexed problem. In the presence or absence of these organisms is to be found an explanation of the therapeutic differences in the air of different localities.

Sir John Lubbock, in his address to the British Medical Association, states that it is calculated that the smallest sphere of organic matter which can be distinctly defined by the most powerful microscope is about $\frac{1}{18000}$ of an inch in diameter, and that a particle of this size would contain many millions of molecules. These molecules may be germs of organic life. Such a thought opens a wide field for the origin of the microbes of disease, even when we shall have become familiar with the different species of every known infection.

Professor Tyndall's experiments have shown conclusively that the air, as we ascend, becomes freer from atmospheric germs, and that dust-laden air is necessary for the production of living organisms in vegetable infusions; that such vegetable fluids, after months of exposure to optically pure air, remain free from infusorial life.

That atmospheric germs are much more abundant in cities and large towns than in the open country has also been conclusively shown by Professor Tyndall's experiments, as well as that these germs are diffused through the air of different sparsely inhabited localities in varying degrees.

Dr. Andrews, in his Lumleian lectures, states that the micro-organism which excites phthisis, whatever it may be, at certain altitudes is no longer met with. It seems evident, however, that, if purity of atmosphere is the essential therapeutic agent of high altitude, all elevated regions do not furnish it. Experience has shown that when the inhabitants of elevated regions, who have long enjoyed an immunity from phthisis, have engaged in manufacturing pursuits, phthisis has become a prevalent disease, and there are localities of very high altitude where phthisis has always existed. It is a reasonable inference that those localities of high altitude which are now, and which may hereafter be, found favorable to the climatic treatment of phthisis must remain sparsely inhabited; and that, as soon as the hotels, boarding-houses, and sanitariums in such regions become numerous or overcrowded, such health resorts will lose their therapeutic power.

Another climatic condition which, I believe, is as essential as altitude to purity of the atmosphere in any locality is *porosity of soil*. In localities where the soil drains slowly and imperfectly there is a peculiar dampness which acts most powerfully in developing phthisis. Dr. Henry I. Bowditch, in his address on consumption before the Massachusetts Medical Society in 1862, states that soil moisture is one of the chief causes of phthisis, and that localities where there is a dry soil are comparatively free from the disease.

Dr. Buchanan, in his classical report to the Privy Council, makes the statement that *dampness* of soil is one of the most prolific causes of phthisis to the inhabitants living upon it.

Laennec, in his work on "Diseases of the Chest," states that for ten years he had charge of a nunnery outside of Paris, where the ascetic spirit which controlled the minds of its inmates was most severe, and led to no less serious than surprising results; not only was the attention of the nuns habitually fixed upon the most terrible truths of religion, but the discipline was such as to bring them as early as possible to a complete renunciation of their own wills. During the ten years in which he had the medical charge of this establishment, three times he witnessed the death of its entire membership from consumption. Laennec ascribes this astonishing mortality to the depressing effects of mental suffering, but it was afterward found that this nunuery was built in a clay cup, which caused such constant dampness in the buildings that they had to be abandoned. From these statements it seems evident that the atmospheric dampness which is so powerful in developing phthisis is not necessarily present in those localities where there is the greatest amount of rain-fall, nor is it necessarily present in localities which are in close proximity to large bodies of water, but it is a dampness which is due to a peculiar conformation of the soil; in all clay regions such dampness exists. The air of such localities is saturated with a moisture which is laden with germs of special vitality. The amount of rain-fall in any region tells little of its atmospheric moisture. In some localities where there is little or no rain-fall the air is constantly loaded with moisture almost to saturation, on account of the non-porosity of the soil. Frequent showers unquestionably purify the atmosphere in localities where the conformation of the soil favors rapid and free drainage.

The presence of extensive evergreen forests has been found to have a powerful purifying effect upon the surrounding air. It is questionable if winds purify the atmosphere of a locality; that they act prejudicially upon phthisical invalids is sustained by the experience of most observers. There are observations which show that ozone, or that electrical condition of the atmosphere in which it is present, acts as a powerful purifying agent in the atmosphere—an oxidizing disinfectant. While oxygen requires a considerable degree of heat before it will combine with other substances, ozone will do so at an ordinary temperature. The air of a locality may not necessarily be impure because no ozone is present, for it may already have been expended in oxidizing organic substances in the surrounding atmosphere; yet the presence of ozone in the atmosphere of a locality is presumptive evidence that the air is optically pure.

As has already been indicated, there are from our present standpoint two important objects to be attained in the treatment of phthisis: *First*, to prevent the entrance of microbes into the lungs through the respired air. *Second*, to maintain such a healthy condition of the pulmonary tissue as to prevent those abnormal changes in the lungs which may favor the development and activity of such organisms, if they have gained an entrance into the respiratory organs. The importance of maintaining a healthy condition of the lung-tissue is in danger of being overlooked in the earnestness with which attention is now being directed to the bacilli of tuberculosis. If we are to regard the presence of tubercle bacilli in the expectoration as essential to the diagnosis of a fully developed phthisical process in the lungs—and I am convinced, from my experience after very many examinations, that they are never absent—the important clinical question arises, Can the bacilli in diseased lungs be destroyed? Attempts in this direction have been made principally by means of antiseptic inhalations. This is becoming the fashionable method of treating all diseases of the respiratory organs, and respirators of various devices, charged with some antiseptic, are now being extensively used in the treatment of phthisis. I would not unfairly criticise such treatment, but I am convinced, from my own experience in this direction, that the clinical evidences of the effectiveness of such inhalations in destroying or diminishing the number of tubercle bacilli in phthisical processes are entirely wanting. Although this method of treatment has recently been greatly stimulated by Koch's discovery, we have as yet no reliable clinical data that it has any influence upon the tubercle bacilli. If antiseptic inhalations have apparently acted beneficially in any case, I am convinced that it has been due to their favorable influence upon the mucous membrane and secretions in the higher air-passages, and not to their action upon phthisical changes in the lung substance. It must be admitted, however, that the antiseptic treatment of disease is as yet in its infancy, and that our present methods are unquestionably imperfect. There is very great doubt if, by the methods of inhalation now in use, antiseptic materials ever reach the pulmonary tissue. Perhaps the ingeniously contrived pneumatic cabinet of Dr. Williams, of Brooklyn, may accomplish the desired result. Certainly the principle upon which his cabinet tends to inflate residual lung tissue is sound, and may be found, by its practical results, to accomplish what is desired in this direction. It is doubtful, however, if an antiseptic inhalation should be brought in contact with the diseased lung tissue, if it would destroy or render inoperative the bacilli of tuberculosis. The following report, in a recent number of the London "Lancet," bears directly upon this point: Dr. Morel Mackenzie reports a case of laryngeal and pulmonary tuberculosis, which originated in a simple chronic catarrh of the larynx, in which he asserts that, for a considerable time after frequent microscopical examination of the secretion from the inflamed laryngeal membrane, no bacilli could be found; but, after a time, the inflamed laryngeal membrane began to present the unmistakable appearance of tubercular laryngitis, and then the laryngeal secretion contained numerous tubercle bacilli. And he states that, while the laryngeal symptoms were relieved by the local use of iodoform and other antiseptics, such antiseptic applications did not diminish the number or destroy the vitality of the tubercle bacilli. From these observations it would seem, first, that the inflamed laryngeal membrane, after the non-specific laryngeal catarrh had reached a certain stage, furnished a fitting soil for the bacillary development, as a secondary and not a primary lesion. Second, that, if the direct topical application of antiseptics to the seat of the development of bacilli will not destroy them or even diminish their number, we can expect little benefit in this direction from antiseptic inhalations on tubercular processes in the lungs. Dr. Pollock, of London, concludes his *résumé* of modern theories and treatment of phthisis in the following words: "No parasite theory of phthisis can lessen the importance of the use of cod-liver oil. Supposing we possessed a local remedy of sufficient power to insure the destruction of such bacilli as are met with in the secretions of phthisical subjects, their rapid reproduction would soon overtake our treatment. I fear in this direction we may have much experience, and many such experiences, and many disappointments. Finally, to sum up the brief review which we have been able to make of these new doctrines, it would appear that, while some facts—such as the presence of bacilli in the cases of phthisis, and their absence in the other affections of the lungs and air-passages—are fully proved, there are some assertions of those who hold that such appearances in the lungs and its secretions are the proximate and invariable cause of the disease which we must for the present hold *sub judice*. Among these doubtful theories are those which concern the production of the parasites. Whether they may be endogenous or introduced from without, whether they may not find their birth in certain blood changes which are the outcome of pyrexial action in the system, or whether they are the product of a like morbid condition in other animal bodies, and from them introduced into other organisms by contact or infection, must remain for the investigation of later pathology. We may safely relegate these interesting questions to ardent students, who are now everywhere carrying on new observations, and for ourselves, knowing well that all pathology is progressive, and that we see but a portion of truth at any time, be content to await the result. That there is some intimate connection between the development of the micro-organisms of disease and atmospheric impurities, every day's clinical observation seems conclusively to establish. Our modern surgery bears testimony to such a conviction in the minds of careful and experienced surgeons."

As yet the science of bacteriology has not determined the origin of any one of the many micro-organisms which have been so minutely described and carefully cultivated. All varieties of putrefactive bacteria may have an atmospheric origin. And it is at least reasonable to suppose that some of the so-called specific bacilli and micrococci may have a similar origin. If such an origin can be admitted, the importance of a pure atmosphere as a preventive measure, as well as a curative agent in phthisis, is apparent. I will give the clinical histories of two cases which bear directly upon this point:

Case I.—Early last summer a gentleman, twenty-six years of age, consulted me, having the well-marked physical signs of the first stage of phthisis at his left apex; an examination of his sputum showed it to contain numerous tubercle bacilli, his general condition being such that he was able to exercise for hours in the open air. I advised him to spend the summer in the Adirondack Mountains. He returned to me in November, having been five months in the woods in camp life. He had gained twelve pounds in weight, lost his cough almost entirely, and presented the appearances of perfect health. Repeated examinations of his morning sputa failed to detect in them a single bacillus; a physical examination of his chest showed that the consolidation at his left apex had disappeared. For five months he had breathed an optically pure air, and either that had acted as a germicide upon the bacilli in the diseased lung or the consequent improvement in his nutritive processes and the greater vigor of his general system had so changed the diseased processes in his lungs that the fitting soil for their development no longer existed.

Case II.—A young man, nineteen years of age, with no hereditary phthisical tendencies, in March, 1883, had a profuse hæmoptysis immediately following a long ride on horseback; he soon began to cough, and lost flesh and strength rapidly. On the 6th of the following May he came under my observation, when he presented a well-marked phthisical aspect, and had occasional night-sweats, with a temperature ranging from 102° to 103° in the afternoon. A physical examination of his chest revealed consolidation of the upper third of his left lung, with numerous small-sized moist râles and pleuritic crepitations. His sputum, which was abundant, contained large numbers of tubercle bacilli. I directed him to remain in bed, and placed him exclusively on a milk diet for three weeks, at the end of which time his fever and sweats had left him, and, at his earnest request, I allowed him to take a steamer for Europe. He reached Davos the last of June. Within two weeks after his arrival at Davos he had two profuse hæmorrhages. During most of the summer he was extremely weak and short of breath on the slightest exertion, with an exhausting cough, accompanied by a profuse expectoration. In September he began slowly to improve; his improvement was continuous and not attended by relapses, as is usual in such cases. During the latter part of winter, or in the early spring, his cough left him, except in the morning on rising; he had regained his usual weight, had a good appetite, felt perfectly well, and could take long walks without fatigue. He remained in Davos during the next summer. In September he was told by his medical attendant at Davos that he might return to New York. Soon after his arrival home I examined him. All evidence of consolidation at his left apex had disappeared, and the only remaining physical evidences of his former disease were thickening of the pleura and a few bronchial râles at the left apex on coughing. On examination of a number of specimens of sputa, obtained immediately after rising in the morning, no bacilli could be detected. In January he began to cough again, lost flesh and strength, his expectoration became profuse and again contained bacilli, the physical signs of infiltration again appeared at the site of his old trouble, and he immediately left for Los Angeles, where I understand he is quite well. This history seems to indicate that the presence of tubercle bacilli in the sputum is ultimately connected with, or markedly influenced by, breathing an impure and dust-laden atmosphere, while their disappearance was effected or intimately connected with breathing a pure atmosphere, for the physical signs, when the patient returned from Davos, evidenced that the phthisical processes in his lung, although not progressive, still existed, and bacilli should have been present in his sputa.

If, then, we accept as trustworthy the views and statements of recent observers in regard to the ætiology and morbid anatomy of phthisis, it seems evident that its prophylaxis and rational treatment are very likely to be in the future very nearly what they are now, although we may give new interpretations to many of the agents which we are now employing.

In conclusion, gentlemen, permit me to urge upon you to be careful how you send phthisical patients from home while the disease is in active progress. During the period when there is active febrile disturbance most patients are best cared for at home. Always wait for a period of quiescence, which will certainly come in all cases of chronic phthisis during its first stage, before sending your patients far from home.

There is a tendency at the present day to send phthisical patients from home before sufficient time has elapsed to form any reliable opinion as to the probable course of the disease. I believe it is better—certainly it is safer—at first to keep our patients near us, where they can be more or less directly under observation. There are health stations near at hand, where most of the conditions exist which are known to exercise a favorable influence on phthisical processes, and it is far better to utilize these for a few months before sending patients to the more distant and, perhaps, more valuable ones. *Never send patients in the advanced stage of phthisis, if the disease is in active progress, far from home to seek health.* Let me also urge upon you the importance of keeping phthisical patients in the localities where they improve until they reach complete recovery. The practice which is followed by many medical advisers of sending their patients to one place in the summer, another in the winter, a third in the spring, and often a fourth in the autumn, I believe is most injurious; nor can I find any good reason to justify these successive changes.

An intelligent gentleman in the last stages of phthisis once said to me: "In attempting to follow the seasons I have traveled more than 2,000 miles each year, and the result, as you see, is a failure." These unhappy patients, urged by a hope born of despair and by the tyranny of a physician's order, wander from one health station to another. Scarcely do they begin to experience the beneficial effects of rest in a climate in which they are improving when the requirement of change, in correspondence with the season, drives them to another, and they are compelled again to begin the dangerous work of acclimatization. Thus they are always moving from one health station to another, stimulated by promises which can never be realized, and often die by the way-side, far from home and friends.

Original Communications.

INJURIES OF THE MAIN BLOOD-VESSELS IN THE AXILLA CAUSED BY EFFORTS TO REDUCE DISLOCATIONS OF THE SHOULDER.[*]

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Dislocation of the shoulder, an injury, both relatively to the other dislocations and actually, common, is, at least when recent, deemed one of minor gravity, the cure of which can be effected readily and without risk to the patient. But, from time to time, cases are reported in which the gravest consequences have followed reduction or the attempt to reduce, and such accidents have happened and continue to happen in the practice of even the most experienced surgeons, aided by anæsthetics and employing methods of manipulation rather than those of force. The importance of the general recognition of this possibility, the interest attaching to certain questions of diagnosis and treatment, and the discovery of certain errors current in the statistics of the subject, have led me to bring before you a question which, within the last few years, has been the theme of several writers, and with which all are reasonably familiar.

Among these accidents, the most frequent and most important are those of injury to the main blood-vessels in the axilla.

Although the earliest recorded cases of this accident occurred at about the beginning of the eighteenth century, the subject did not receive the attention of systematic writers on surgery until after the publication, in 1827, of an article by Flaubert.[*] Malgaigne, in 1855, discussed the subject at length in his work on dislocations, mentioning sixteen cases of all kinds, certain and uncertain. Callender,[†] taking as a text his own fatal case, again collected and collated the known cases; and similar use was made of the material, and other cases added to the list by Le Fort,[‡] Willard,[#] and Marchand.[‖] In 1882 Körte[△] reported three personal cases, and wrote a very full and valuable paper on the subject containing forty-four supposed (actually thirty-eight; see note below) cases of dislocation of the shoulder, in which the vessels had been seriously injured during the act of dislocation or of reduction; and in 1884 Cras[◊] reported a personal case of injury of the axillary artery, and added a few others to Körte's list. Strictly speaking, several of these cases should not be here considered, since in them the vessel was injured at the moment of dislocation and not during reduction, and in many others it remains uncertain whether the same objection might not be made to them. They are retained because they serve equally well with the others to further the study of most features of the subject.[↨]

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[*] Read before the New York Surgical Society, May 26, 1885.

[*] "Mém. sur plusieurs cas de luxations dans lesquels les efforts pour la réduction ont été suivis d'accidents graves," "Répertoire d'anat. et de phys.," 1827.

[†] "St. Bartholomew's Hosp. Reports," vol. ii, 1866, p. 96.

[‡] "Dict. encyclopédique des sci. méd." Article *Axillaires.*

[#] "Phila. Med. Times," 1873, vol. iii, p. 721.

[‖] "Des accidents qui peuvent compliquer la réduction des luxations traumatiques," "Thèse de concours," Paris, 1875.

[△] "Arch. für klinische Chirurgie," vol. xxvii, p. 631.

[◊] "Bull. de la société de chirurgie," 1884, p. 739.

[↨] Reference to the original accounts, so far as I have been able to obtain them, shows several errors in the lists given by the above-mentioned writers. Sir Astley Cooper's case must be excluded because it is the same as Gibson's first case, having been simply quoted by Cooper without acknowledgment.

Blackman's case must be excluded because it proved to be not a dislocation, but a fracture of the humerus. As it has been widely quoted and is, indeed, given in detail as a dislocation by Dr. Hamilton ("Fract. and Disloc."), an explanation of the manner in which the error arose may be of service. Blackman reported it as a dislocation in the "Western Lancet," August, 1856, p. 469, and an abstract of this report was given in the "Am. Journal of the Med. Sciences," 1856, vol. xxxii, p. 571, and is quoted by most writers. But on page 508 of the same

The trustworthy recorded cases of injury to the larger vessels of the axilla in dislocation or reduction of dislocation of the shoulder are forty-four in number. Of these, the axillary vein alone was ruptured in three (Froriep,[*] Price,[†] Hailey[‡]), although I think the last one doubtful, and the artery and vein together in two (Platner,[#] Baum[‖]). In most of the others the axillary artery or one of its branches was injured, but in some the source of the hæmorrhage remains uncertain. In thirty-two cases death or amputation of the arm furnished the opportunity to examine the region and determine the character of the lesion; this, in some cases, was a complete or partial rupture of all the coats of the artery, or of the inner and middle coats alone, with subsequent formation of a circumscribed aneurysm.[△] In other cases the vitality of the wall appears to have been diminished or destroyed by direct pressure, and this to have been followed, after the lapse of a few days, by rupture (Warren[◊]), or, still later, by the formation of an aneurysm. In Gibson's second case[↨] an aneurysm appears to have formed in consequence of the earlier attempts to reduce, and then itself to have been ruptured when Gibson effected reduction. Rupture appears always to have taken place quite high up, and usually at the point pressed upon by the head of the humerus. Callender found it necessary to divide the pectoralis minor to reach it. In the fatal cases of injury of the vein alone the vessel was torn completely, or almost completely, across. In Baum's case both artery and vein were partly torn by a broken piece of the new bony socket that had formed about the head of the humerus. The artery was tied above the origin of the long thoracic, and a second ligature was subsequently placed on it at the level of the lower border of the pectoralis major.

In five cases (Callender, Desprès,[*] and Körte's three) only a small (one sixth of an inch) oval opening was found on the anterior wall of the artery, and was thought to have been produced by the tearing off of a branch, the subscapular or circumflex.

In Gärtner's[†] case the opening in the artery is described as funnel-shaped, but the tumor was small, formed slowly, and presented the common signs of aneurysm, so that it seems probable that what he describes as the opening included also the neck of an aneurysmal sac. In other cases the subscapular (Lefeuvre[‡]) or the circumflex artery (von Pitha[#]) was torn across at or near its origin. These last-named eight cases form a considerable proportion of the whole number, and are of great importance because they explain the persistence of the radial pulse noted in several of the histories.

Of twenty-nine cases in which the age of the patients is given, in twenty they were more than forty years old. The youngest was twenty (Gärtner), the oldest eighty-six (Sands[‖]). In very few of the cases is it noted that the arteries were atheromatous, although the advanced age of many of the patients makes it probable that the elasticity of the vessels was diminished.

In more than half the cases the dislocation was recent—less than three weeks. In not more than one third of them is it reasonably certain that the lesion was caused during reduction; in three cases it was certainly caused by the dislocation; in the remainder the cause is obscure. To these latter belong those cases in which the reduction was promptly effected, and without the use of much force or of exaggerated positions of the arm.

In many of the others the attempt to make reduction was greatly prolonged or several times repeated, and the force used was very great or improperly applied. This last criticism is probably applicable to the earliest four cases (Verduc, Petit, Platner, Bell), about which nothing is known except that death was caused by hæmorrhage. In one of them (Bell[△]) the use of the ambi is mentioned, and it is probable that it or the method of the door or ladder was employed in all.

In some the injury was evidently caused by excessive traction (Gibson, traction by five or six assistants in one case, by pulleys for nearly two hours in the other; Leudet, eight assistants); in others by faulty manœuvres, such as extreme abduction or elevation of the arm, rotation, and circumduction; in others again apparently by direct compression of the vessel against the underlying bone, as by the booted heel in the axilla (Warren, Rivington[◊]), or possibly by the thumbs (Panas[↨]).

(August) number of the "Western Lancet" is a note by Blackman, which apparently had been overlooked by the maker of the abstract, giving the results of the autopsy and showing the error in the diagnosis. The fracture was at the surgical neck, and the end of the shaft had been displaced upward and lay in contact with the coracoid process; the head was still in the glenoid cavity, and had partly united with the shaft about an inch below its upper end.

In Segond's case not only does the artery appear to have been wounded by a piece of the dish the patient was carrying, but it is doubtful even if the limb was dislocated.

In Delpech's case it is recorded only that at the moment of reduction the patient grew pale, became unconscious, and died immediately, and there is nothing to show the cause of death.

In Fano's, the artery may have been simply compressed. O'Reilly's is the same as Adams's. The latter admitted the case into hospital, the former operated upon it.

A case which Callender quotes, a man treated by a "bone-setter," does not deserve to be grouped with those treated by professional surgeons, although the force employed—traction by twelve or eighteen assistants—was not much in excess of that recorded in some of the other cases, or of what I have myself seen employed. Not only the artery, but also the muscles were torn and the humerus was broken.

Green's case ("Lancet," vol. viii, 1825, pp. 189 and 283) is quoted as one of recovery after ligature of the subclavian, but the reports end on the eighteenth day with the ligature still in place, and after a free hæmorrhage on the thirteenth day.

[*] Malgaigne, "Luxations," p. 151.

[†] Callender, *loc. cit.*, p. 107.

[‡] "British Medical Journal," 1863, ii, p. 634.

[#] Malgaigne, *loc. cit.*, p. 151.

[‖] "Deutsche Klinik," 1867, p. 431.

[△] It is possible that this rupture may be followed by obliteration of the artery at the wounded part. Scarpa held this opinion (Hodgson, "Dis. of Arteries," p. 488).

[◊] "Med.-Chirurg. Trans.," vol. xxix, p. 25.

[↨] "Surgery," vol. i, p. 334.

[*] "Bull. de la soc. de chirurgie," 1878, p. 116.

[†] "Schmidt's Jahrbüch.," 1871, vol. cli, p. 304.

[‡] Cras, *loc. cit.*, p. 750.

[#] Körte, *loc. cit.*, p. 649.

[‖] N. Y. "Medical Record," 1880, p. 45.

[△] Callender, *loc. cit.*, p. 101.

[◊] "British Medical Journal," 1872, i, p. 420.

[↨] Marchand, *loc. cit.*, p. 52.

Leaving aside the earlier cases in which faulty methods no longer in use were employed, and those old dislocations in which the relations and connections had been permanently changed by fibrous or bony tissue of new formation, it becomes evident that in dislocation of the shoulder the accident is most to be apprehended when the elbow is raised in abduction to the height of the shoulder, or is carried, as in Callender's case, across the chest and face in a wide movement of circumduction; and for this reason, that in these movements the dislocated head of the bone is turned downward into the axilla, and the vessels which lie upon its inner side are pressed down before it and forcibly put upon the stretch, while those branches which run almost directly outward, the subscapular and circumflex, and are fixed to the tissues amid which they branch, are directly and forcibly elongated. Even when the head of the humerus is in its socket the axillary vessels are put upon the stretch when the arm is widely abducted, as can be readily verified during an operation for the removal of the axillary glands, or, still more simply, by observing the arrest of the radial pulse when the arm is raised and carried backward; and there are several cases on record in which this movement alone has resulted in the formation of an axillary aneurysm or in rupture of the axillary artery.* Although in dislocation inward the limb is shortened by being abducted, yet the artery is not thereby relaxed, but, on the contrary, it is still further stretched around the head of the bone. Jössel,† in a recent case in which death was caused by associated injuries, found the "nerves of the brachial plexus, especially the circumflex nerve and the subscapular artery, greatly stretched by the head of the humerus," and, according to Körte (*loc. cit.*, p. 640), he found in another case of recent dislocation the subscapular artery torn.

In his remarks on the case at the Sheffield Infirmary ‡ in which the artery was torn across during an unsuccessful attempt to reduce a dislocation of six weeks' standing, and an incision was made through which each end of the torn artery was tied, Mr. Jackson says: "One thing was noticed on cutting into the axilla: the extreme tension caused by the pressure of the head of the humerus on the vessels and nerves when the arm was raised above the shoulder." This patient died two days after the operation.

In some of the cases in which it is certain or probable that the injury to the vessel was inflicted at the moment of dislocation, it is noted that the latter was produced while the arm was widely abducted—that is, under circumstances in which the head of the humerus would be driven downward and inward.

If the dislocation is an old one, and especially if there has been much inflammatory reaction and the vessels have become firmly adherent to the bone or imbedded in unyielding cicatricial tissue, the liability to rupture is increased because of the loss of elasticity occasioned by the latter condition, and because of the limitation of the strain to a shorter segment of the vessel in the former. If, in addition, the distensibility of the vessel has been further reduced by atheroma, the danger is still greater; and this last predisposing cause may properly be deemed sufficient to lead to the rupture even when the traction is slight and the manœuvres confined are within a narrow range.

In Anger's * case, fracture of the head (?) of the humerus co-existed; in Mash's † two pieces had been chipped off the head of the humerus, and were lying in the glenoid cavity. In several others fracture of the greater tuberosity of the humerus or of the rim of the glenoid cavity is noted; the former of these two complications is common in inward dislocation of the humerus, and could have had no direct influence in causing the injury of the vessels; the latter, also, was probably without influence, since the vessels are pushed away from the scapula, and the fragment remains attached to it.

The *symptoms* at the beginning present two widely different forms; in one, the less common, a tumor presenting many of the signs of an encysted aneurysm appears in the axilla a few days or weeks after the reduction, and increases in size rather rapidly; if not successfully treated, it soon involves the skin and ruptures externally. In the other form, the more common, a diffused fluctuating swelling, without bruit or pulsation, appears immediately, or within a few hours, in the axilla, raising the pectoral and deltoid muscles, or is, perhaps, most prominent posteriorly, and in most cases promptly reaches a large size, even that of the adult head (Lister ‡); the radial pulse sometimes persists. The only exception to rapid growth among the recorded fatal cases is Körte's third case (*loc. cit.*, p. 636), in which the extravasated blood disappeared slowly, leaving a firm, non-pulsating lump, as large as a walnut, in the course of the axillary artery, which a surgeon supposed to be a lymphatic gland, and undertook to extirpate nearly five months after the accident. It proved to be an aneurysm containing much stratified clot; the axillary artery was tied above and below, and the patient died.

In several cases the patients died promptly after the accident, sometimes after profound syncope, sometimes (Gibson's first case #) after a short period of apparent well-being, with symptoms of shock or acute anæmia. In two, which finally ended in recovery (Sands, Agnew ‖), the patients were at first greatly prostrated, and death by syncope threatened. In another (Mash's) emphysema developed in the arm, and the patient died forty hours after the reduction. In this case the inner and middle coats of the artery were torn across "just beyond the point of origin of the dorsal scapular branch." The radial pulse was at first perceptible, but had ceased the next morning.

In most of the others the swelling increased, and, in a longer or shorter time, ruptured spontaneously, or was threatening to rupture when operative interference (puncture, incision, or ligature of the subclavian) was resorted to. The

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* Cases of Pelletan and Paget, and specimen in museum of St. George's Hospital; Callender, *loc. cit.*, pp. 103 and 107.

† "Deutsche Zeitschrift," vol. xiii, 1880, p. 177.

‡ "British Med. Journal," Feb. 3, 1883, p. 207.

* "Bull. de la soc. de chirurgie," 1878, p. 122.

† "British Medical Journal," 1872, i, p. 526. Reported by Carruthers, the house surgeon.

‡ "Edinb. Med. Jour.," 1873, p. 829.

"Surgery," vol. i, p. 325.

‖ Willard, in "Phila. Med. Times," vol. iii, 1873, p. 721.

longest period was in Bellamy's[*] case, six months after reduction, and even in this case the first hæmorrhage occurred five weeks after reduction.

In the cases that recovered without operation (Agnew, Sands, Malgaigne,[†] Desault,[‡] Anger, Nélaton's second case[#]) the swelling subsided, and the ecchymosis was slowly absorbed. Agnew's patient was discharged in ten days, Anger's and Desault's in a fortnight, Malgaigne's was well on the twenty-second day, and Sands's, a woman eighty-six years old, made a slow recovery. In three of them (Nélaton's, Anger's, Sands's[‖]) the diagnosis of rupture of the axillary artery was made. Desault's diagnosis was "emphysema of the cellular tissue"; he had reduced by violent and prolonged traction a dislocation of six weeks' standing in a man sixty years old. At the moment of reduction a tumor formed suddenly under the pectoral muscle, and soon filled the axilla; the patient fainted, and the pulse was barely perceptible on the affected side; the tumor was well defined, elastic, not fluctuating, the overlying skin was not at first discolored, and percussion gave a sort of sound (*espèce de bruit*). On these symptoms rupture of the artery was excluded, and the diagnosis of emphysema made. Malgaigne and Agnew made the diagnosis of rupture of the axillary vein.

I think there is reason to doubt the correctness of the diagnosis in the last three cases, certainly in Desault's and Malgaigne's, for it was avowedly based on the persistence of the radial pulse, and, although it is not so stated in the report of Dr. Agnew's case, it seems fair to assume that the same persistence of the pulse which is noted in the report was also the basis of his diagnosis. As has been already mentioned, rupture of the subscapular or circumflex artery has several times presented similar symptoms, and, as in Mash's case just quoted, the radial pulse may even persist after rupture of the inner and middle coats of the axillary artery itself. Pelletan[△] had a case similar to Desault's, made the same diagnosis, and incised the tumor; the patient died of hæmorrhage, and the artery was found to have been ruptured.

In the two cases in which rupture of the vein alone was demonstrated post mortem (Froriep, Price), the patients died promptly, in an hour and a half and on the following day, respectively. In the third case, Hailey's, in which this lesion is said to have been proved by the autopsy, the account of the examination is very unsatisfactory, and leaves it, I think, quite uncertain what the actual injury was. The patient was a man fifty-nine years old; the dislocation was caused by a fall from a wagon and was very easily reduced. The symptoms were, first, pain in the wrist, then, after a few days, swelling of the shoulder and œdema of the arm; at the end of two months a tumor appeared between the acromion and coracoid (*sic*), and death by exhaustion a few days later. The tumor was blood-clot, more than two pounds being removed from the axilla.

In De Morgan's case[*] "it was impossible to detect the source of the hæmorrhage" at the autopsy, and it was attributed to the rupture of many small veins. This explanation also, I think, may well be questioned, for in this case too the radial pulse persisted, and at that time no cases had yet been reported in which similar symptoms had been shown to be caused by rupture or avulsion of a branch of the main artery. If, as seems probable from the account and in view of the ignorance of this fact, the examination was mainly directed to the condition of the veins, it is not unlikely that rupture of an arterial branch may have been overlooked, especially since the symptoms were not unlike those of some of the other cases in which this rupture was demonstrated (Desprès, Körte's second case). The symptoms and course of this case were, in brief, as follows:

The patient was a man fifty-four years old, the dislocation subcoracoid, the reduction immediate, under chloroform, with the heel in the axilla. During the first week "there was nothing to be noticed but the ordinary swelling attending such a dislocation. This swelling, instead of subsiding, increased, and this somewhat rapidly toward the end of the first week. There was also some purple discoloration about the inner and posterior parts of the shoulder. Still, there were no appearances which might not attend an ordinary bruise or laceration about the part. But, in the course of the following week, enormous swelling had come on, extending from the elbow up the arm and over the chest to the level of the outer third of the clavicle, and over the scapula." The swelling was soft and fluctuating; the skin in places dark purple and thin; the radial pulse was natural. Fever, with slight shivering and one distinct chill. "About the third or fourth week an incision was made in the arm and the hand passed up into the cavity, which contained an enormous amount of blood, chiefly coagulated, extending under the pectoral muscles, down the side of the chest, and behind over a great part of the scapula, and communicating with the shoulder joint. The subclavian and axillary arteries could be felt." The man died with symptoms of septicæmia.

In Körte's second case (*loc. cit.*, p. 635) the patient was fifty-two years old, the dislocation forward and inward. Several unsuccessful attempts to reduce were made during the sixth month, and the last was followed by the gradual appearance of a non-pulsating swelling under the pectoral muscle, œdema of the arm, and sharp neuralgic pain. Radial pulse. The patient became feverish, the tumor softer, the skin thin, and at the end of six weeks it ruptured spontaneously. The hæmorrhage was arrested with a tampon, and the patient died shortly afterward. The autopsy showed a large cavity occupying all the space under the pectoralis major, and filled with large blood-clots. On the outer and front side of the artery, 4 centimetres below the clavicle, was a transverse oval opening measuring 0·4 by 0·3 centimetre (one sixth by one eighth inch), thought (*loc.*

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[*] "Lancet," 1880, ii, p. 260.

[†] *Loc. cit.*, p. 150.

[‡] "Œuvres chirurgicales," i, p. 380.

[#] Referred to by Anger and Le Fort, *loc. cit.*

[‖] Dr. Sand's patient died in May, 1885. The injury proved to have been of the axillary artery, which was occluded at a point a quarter of an inch above the origin of the posterior circumflex. The specimen was presented at the meeting of the New York Surgical Society, at which this paper was read, and a description of it will be found in the report of the proceedings.

[△] "Clinique chirurgicale," vol. ii, p. 95. Quoted by Malgaigne.

[*] "British Med. Journal," 1872, i, p. 5.

cit., p. 650) to have been produced by the tearing off of an arterial branch.

In Desprès's case there was the same swelling, slowly increasing and becoming fluctuating, œdema of the arm, and persistence of the radial pulse. In addition, a bruit was audible after the tenth day, and the swelling subsequently pulsated at times. An operation for ligature of the subclavian was done on the forty-fifth day, and was followed by arrest of the pulsation, but, after the patient died, on the fifty-fourth day, it was found that the ligature had been placed upon a nerve immediately overlying the artery. The common trunk of the circumflex arteries was found to have been torn off at its origin.

On the other hand, in Körte's first case, in which the lesion proved, post mortem, to be a similar opening upon the side of the axillary artery, and of almost exactly the same size, pulsation in the brachial and radial arteries was barely perceptible two months after the accident, when the patient first came under observation with an enormous pulsating swelling of the shoulder filling the axilla and extending up to the clavicle.

These histories show, and many of the others might be quoted in confirmation, that, although the diagnosis, so far as the general nature of the accident, rupture of a blood-vessel, is concerned, does not long remain obscure; the identity of the injured vessel can not always be determined. If the tumor pulsates, the diagnosis of rupture of an artery may be made; and if, in addition, the radial pulse is present, it is extremely probable that the injured vessel is not the main artery, but that one of its branches, probably the subscapular or circumflex, has been ruptured or torn off at its origin. Beyond this it does not seem at present possible to go with much certainty, although the great preponderance of arterial lesions in the known cases—26 out of 28, or, adding Hailey's and De Morgan's, out of 30, or, again, adding Platner's and Braun's, in which both artery and vein were torn, out of 32—makes it highly probable in any given case that an artery and not the axillary vein has been torn.

Of the remaining 12 cases, 6 recovered without operation (Desault, Malgaigne, Nélaton's second case,* Anger, Agnew, Sands) and have been already discussed. Nélaton, Anger, and Sands made the diagnosis of rupture of an artery. In the other 6—Warren, O'Reilly,† Green, Volkmann,‡ Létiévant,# Cras—the subclavian was tied; in 5 of them with success; in 1, Green's, the result is not known.

In the last 6, and in 3 of the first 6, it seems reasonably certain that an artery was injured, for pulsation of the swelling is noted in every account that is given in detail, and such was the opinion of the surgeons who treated them. The record, then, may be made as follows: Of 44 cases, an artery (the axillary or a large branch) was ruptured in 35, the artery and vein in 2, the vein alone in 2, in 2 dissection failed to reveal the source of the hæmorrhage, and in 3, in which the patients recovered without operation, the symptoms do not justify a positive diagnosis.

The *terminations* were as follows: 12 recoveries, 31 deaths, and in 1 (Green's) the result is unknown; 20 received no operative treatment; of these, 6 recovered and 14 died.* In 14 the subclavian was tied, with 5 recoveries, 8 deaths, and 1 unknown result. In 6 an incision was made in the axilla, and the artery tied above and below the point of rupture; all died. In 4 the limb was disarticulated; 1 recovery, 3 deaths. The treatment in the cases that recovered without operation was simply compression of the swelling and immobilization of the arm, with the application of ice in Malgaigne's, and compression of the subclavian artery in Agnew's.

In drawing inferences from these results, it must be borne in mind that in many of the cases in which operations were undertaken non-operative treatment had previously been employed, and had resulted in a condition that made an operation necessary. Thus, using only those cases in which the record is sufficiently detailed, of the 14 cases of ligature of the subclavian, in 7 the operation was done after the lapse of several weeks or even months, in 1 on the third day, in 1 on the tenth day, and in 5 the length of the interval is not known. Of the 4 disarticulations, in 1 the operation was at a late date, in 1 five days after the accident, and in 2 unknown. Of the 6 treated by incision and double ligature of the axillary artery, the operation was done promptly in 2, and after a long interval in 4. Consequently the results of non-operative treatment may be tabulated as follows: Of 32 patients, 6 recovered, 14 died, and 12 (with 10 deaths) subsequently underwent operation, either because death by hæmorrhage threatened, or because of the existence of a growing aneurysm.† A fair inference is that conservative treatment may properly be tried at first, but should not be prolonged if the symptoms do not promptly yield; and, secondly, that, in case of resort to operation, ligature of the subclavian artery or disarticulation at the shoulder is to be preferred to incision of the sac and double ligature of the artery.

Experience with arteries wounded under other conditions has shown that they will sometimes quite readily heal, or the opening made into them will close, under pressure accurately made at the point of injury, and it would therefore be proper to attempt to treat this injury by direct, limited pressure. Whether or not it would be possible to recognize the wounded point and make efficient pressure directly upon it can not be said, since the attempt does not appear to have been made. In default of such limited pressure, general compression of the swelling in the axilla seems to be the only other resource short of operation. The common treatment of ruptured artery, incision and double ligature of the vessel, was immediately resorted to in only two of these cases, Lister's, and the one at the Sheffield Infirmary.‡ Both were promptly fatal.

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* After rupture of the tumor without hæmorrhage, and suppuration of the sac and shoulder joint. See Körte, *loc. cit.*, p. 655.

† "Cyclopædia of Anat. and Phys.," vol. iv, part 1, p. 616, art. "Shoulder Joint."

‡ Körte, *loc. cit.*, p. 656.

Cras, *loc. cit.*, p. 748.

* Possibly Körte's second case should be included among the recoveries.

† Körte's second case is an exception; an error in diagnosis led to an operation after the aneurysm had apparently undergone spontaneous cure.

‡ "British Med. Jour.," February 3, 1883, p. 207.

An important question arises from these facts in connection with the treatment of dislocation of the shoulder: How far does the possibility of the occurrence of this accident affect the choice of a method of reduction? and also concerning the propriety of attempting reduction in cases that are not recent.

In the reduction of recent dislocations, these accidents show that abduction of the arm especially should be avoided, as also circumduction, violent traction, and rough pressure in the axilla. Kocher's method by manipulation appears well adapted to avoid the danger. It is also to be remembered that the injury to the vessel may be caused by the dislocation itself, and its symptoms may be masked by the swelling commonly present during the first few days.

In old dislocations the probability of the occurrence of the accident is increased by the more forcible measures usually necessary to break up the adhesions that bind the bones in their new relations; and, while it may be proper in many cases to make the attempt to restore the limb to usefulness, this possibility creates another reason for abstention when the patient is old, the duration of the dislocation long, and the adhesions firm. Even a dislocated arm may be very useful, and the fatality of this accident, more than 70 per cent. of deaths, may well cause the surgeon to hesitate to incur the risk merely for the sake of ameliorating a condition which does not endanger life and is quite compatible with activity and usefulness.

List of Cases.

A. *Fatal without Operation.*

1. Verduc (Malgaigne, "Des luxations," p. 149); artery wounded; no treatment; death by hæmorrhage.

2. Petit (Malgaigne, "Des luxations," p. 149); artery wounded; no treatment; death by hæmorrhage.

3. Pelletan (Malgaigne, "Des luxations," p. 149); artery wounded; puncture; death by hæmorrhage.

4. Platner (Malgaigne, "Des luxations," p. 149; artery and vein; death by hæmorrhage.

5. Leudet (Malgaigne, "Des luxations," p. 149); artery; 57 years. Dislocation 11 days.

6. Froriep (Malgaigne, "Des luxations," p. 149); vein; 26 years. Dislocation 3 weeks.

7. Gibson, I, "Surgery," i, p. 325; 50 years. Disloc. 2 months. Death in a few hours.

8. Price, quoted by Callender; vein. Death on following day.

9. Körte, I, "Arch. für klin. Chir.," vol. xxvii, p. 631; artery; 25 years. Disloc. recent. Puncture.

10. Körte, III, *Ibid.;* artery; 52 years. Disloc. 5½ months. Rupture.

11. Mash (Carruthers), "Brit. Med. Jour.," 1872, i, p. 526; artery; 38 years. Disloc. recent.

12. Hailey, *Ibid.*, 1863, p. 634; 59 years. Disloc. recent.

13. De Morgan, *Ibid.*, 1872, i, p. 54; 54 years. Disloc. recent. Incision.

B. *Ligature of the Subclavian.*

14. Green, "Lancet," 1825, vol. viii, pp. 189 and 283; 33 years. Disloc. recent. Result unknown.

15. Warren, "Med.-Chir. Trans.," vol. xxix, p. 25; 30 years. Disloc. recent. Recovery.

16. Gibson, II, *loc. cit.*, p. 334; 35 years. Disloc. 9 weeks. Death.

17. O'Reilly (Adams), "Cyclop. of Anat. and Phys.," vol. iv, p. 616; 50 years. Disloc. recent. Recovery.

18. Nélaton, I, "Path. chir.," ii, p. 368. Disloc. old. Death.

19. Rigaud, "Dict. encyclop.," art. *Épaule;* artery; 31 years; death.

20. Von Pitha (Körte), *loc. cit.;* artery; death.

21. Volkmann, *loc. cit.* Recovery.

22. Panas (Marchand, p. 52); artery. Dislocation recent; death.

23. Desprès, "Bull. de la soc. de chirurgie," 1878, p. 116; artery; 40 years. Recent; death.

24. Gärtner, "Schmidt's Jahrb.," 1871, vol. cli, p. 304; artery; 20 years. Recent; death.

25. Létiévant, "Bull. de la soc. de chir., 1884, p. 748. Recent; recovery.

26. Lefeuvre, *Ibid.*, p. 750; artery; 52 years. Recent; death.

27. Cras, *Ibid.*, p. 739; 45 years. Recent; recovery.

C. *Double Ligature—all fatal.*

28. Callender, "St. Barthol. Hosp. Rep.," vol. ii, p. 96; artery; 61 years. Disloc. old.

29. Wutzer, "Arch. für klin. Chir.," vol. x, p. 308.

30. Körte, II, *loc. cit.;* artery; 29 years. Disloc. recent.

31. Lister, "Edinb. Med. Jour.," 1873, p. 829; artery; 58 years. Disloc. 8 weeks.

32. Rivington, "Brit. Med. Jour.," 1872, i, p. 420; artery; 71 years. Disloc. recent.

33. Sheffield Inf., *Ibid.*, 1883, i, p. 207; artery; 62 years. Disloc. 6 weeks.

34. Baum, "Deutsche Zeitschrift," 1880, vol. xiii, p. 177; artery and vein. Lig. of axillary (possibly double).

D. *Disarticulation at Shoulder.*

35. Jüngken, "Arch. für klin. Chir.," vol. x, p. 313; artery. Unsuccessful attempt to apply double ligature; recovery.

36. Bell (Malgaigne and Callender). Death.

37. Ledentu, "Bull. de la soc. de chir.," 1877, p. 187; artery. Disloc. recent; death.

38. Bellamy, "Lancet," 1880, ii, p. 260; artery; 55 years. Disloc. 7 weeks; death.

E. *Recovery without Operation.*

39. Desault, "Œuvres chirurgicales," vol. i, p. 380; 60 years. Disloc. 1½ month.

40. Malgaigne, *loc. cit.;* 44 years. Disloc. 2 months.

41. Auger, "Bull. de la soc. de chir.," 1878, p. 122; 54 years.

42. Nélaton, II, *Ibid.*

43. Agnew, "Phila. Med. Times," 1873, p. 721; 60 years. Disloc. 6 weeks.

44. Sands, N. Y. "Med. Record," 1880, p. 45; 84 years. Disloc. 7 weeks. Autopsy in the proceedings of the New York Surgical Society, May 26, 1885, in this number of the Journal.

THE INFLUENCE OF HIGH ALTITUDES UPON PULMONARY CONSUMPTION.*

By IRVING M. SNOW, M. D.,
BUFFALO, N. Y.

The treatment of pulmonary consumption has, at all times, been unsatisfactory to the physician, by reason of the certain and often rapid progress of the disease to a fatal termination. The disease is, indeed, often palliated by medical skill, but relief is usually only temporary, and life is rarely prolonged more than three years. During an experience of thirty-eight years, Dr. Austin Flint states that he has seen but seventy-five cases in which an arrest of the disease took place, and in most of these the improvement was for a short time. Every physician is called upon to examine and advise the victims of consumption. It is a disease in which the doctor is early and frequently consulted, yet one seventh of all deaths are yearly attributed to this cause in the United States, and in Maine 50 per cent. of all deaths between twenty and forty years are from consumption.

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* Read before the Physicians' Club, Buffalo, March 27, 1885.

From the failure of the materia medica to cope with this disease, attention has been drawn to the modifying influence of climate upon chronic pulmonary disorders. The conditions of soil and atmosphere favorable to the development of phthisis pulmonalis are well known. Damp, ill-drained land, cold, humid air, sudden changes of temperature, lack of sunlight, anti-hygienic surroundings—all contribute to depress the general health and to occasion the fearful prevalence of consumption in low-lying districts and in large cities. It is, therefore, evident that, in the search for a climate for the prevention or cure of consumption, dryness of air and soil and the invigorating influences of sunlight must be substituted for the deleterious conditions of ground and atmosphere mentioned above. That climate is a potent agent in the prevention of phthisis pulmonalis is demonstrated by the fact that a region of comparative immunity from the disease is found in high altitudes. Consumption is excessively rare among the native population of New Mexico; is stated by Dr. Archibald Smith to be an exotic in the Peruvian Andes at an elevation of 6,500 feet. Küchenmeister and Lombard have estimated the altitude of approximate immunity in Switzerland at 4,000 feet, and at the equator at 9,000 feet. Dr. Herman Weber, an unquestioned authority on medical climatology, has also testified to the rarity of phthisis upon elevated table-lands. We may also see the influence of altitude in our own country: that, while the mortality in New York city is 20 per cent., at an elevation of 2,000 feet above the sea only 10 per cent. of all deaths are attributed to pulmonary consumption.

In America, Dr. Denison, of Denver, has placed the altitude of comparative immunity from phthisis at 6,000 feet, and quotes the vital statistics of Denver, which, in four years and a half, show but fourteen deaths from consumption originating in the State, two of which were acknowledged by the attending physicians to have originated elsewhere. The analysis of the conditions of climate found in this area of so-called immunity in Colorado becomes an interesting study.

As the traveler passes from eastern to western Kansas toward the Rocky Mountains the landscape gradually changes. In place of luxuriant vegetation, vast cornfields, and numerous streams, the prairie becomes parched and arid, the water-courses waste to dryness, and the whole prospect shows the absence of rain. This difference can be appreciated when we learn that the annual precipitation of rain and melted snow at Denver, 5,300 feet above the sea, is 14·77 inches as compared with New York, where it is 42·70 inches a year. This dryness is favored by the loose, sandy nature of the soil, which absorbs and radiates heat and moisture far more rapidly than impermeable rock or clay. Constant humidity of earth and air predisposes most strongly to the development of phthisis and other pulmonary disorders, while dryness of soil and atmosphere gives to the inhabitant of high plateaux comparative exemption from disorders of the respiratory tract. Laennec mentions a locality where the dampness of the soil was of such a character that two thirds of the resident population died of phthisis. Variations of temperature are less acutely felt in dry than in moist climates, where cold is bitterer and heat more oppressive. The sun is obscured and hampered along seas and rivers by a veil of cloud or mist, but when we reach the plains of Colorado the atmosphere is of a silver clearness, and those who have felt the exhilaration and comfort afforded by the sunlight of Colorado will appreciate the increased power of the atmosphere in transmitting radiant heat. There is found to be an average difference of 43° between sun and shade in Colorado as compared with Washington, where the difference is 23°. A general rule is given by Dr. Denison that "there is a difference of 1° between sun and shade for each rise of 235 feet." This in part explains the enormous diurnal variation of temperature complained of by Dr. Alfred L. Loomis. The physiological effect of light is to stimulate respiration, as is demonstrated by the observations of Bidder and Schmidt, who, finding that animals at rest exhaled more carbon dioxide by day than by night, equalized the elimination of carbon dioxide by depriving the animals of light. To the consumptive, whose hope of life depends upon the amount of sunlight and outdoor exercise he can obtain, the value of a climate like that of Colorado may be appreciated when we contrast its 320 sunny days annually with Boston, where one third of the year is cloudy.

In proportion to the elevation above the sea the atmosphere becomes cooler, the temperature being 1° lower for every 200 feet of elevation above the sea. This difference is not arbitrary, being subject to modification by soil and prevailing winds. The rapid absorption and radiation of heat give rise to great extremes of temperature. As compared with the sea-level, the fluctuations of temperature in Colorado are indeed large, the variation in Colorado Springs in July being 30° daily and 63° monthly, as contrasted with San Diego, where the differenee is 13° daily and 31° monthly, the climate of the Californian resort being tempered by the moist, warm winds of the Pacific.

Physiologically, heat is opposed to stimulation of the nervous centers, as is shown in the greater energy of northern than southern races. Its influence upon respiration is also depressing. The observations of Dr. Parkes show the number of respirations to be about thirteen to the minute in the tropics, and sixteen and a half in England. The value of a cool climate in arresting incipient phthisis is well known. Dr. F. I. Knight, of Boston, has expressed the general sentiment of the medical profession by asserting that "the cold, dry air of high elevations is beneficial in cases of incipient disease of the lung." That the symptoms of consumption are often palliated by moist, semitropical climates is true, yet the digestive organs lack the stimulus of cold, the patient is exposed to the dangers of malarial poisoning, and the heat of summer forces the invalid to leave his winter sanitarium and seek a cooler and less debilitating climate.

With the rise above the sea-level the air becomes rarefied, and the atmospheric pressure is considerably diminished. At the height of 5,300 feet the atmospheric pressure is twelve and a half instead of fifteen pounds to the square inch, and the proportion of oxygen is diminished 16 per cent. This extreme attenuation of the air produces important changes in the economy. The mechanical effect of the rarefied air is to increase the frequency and depth of respiration, and to accelerate the pulse. A greater amount of air must be inhaled to satisfy the demand for oxygen. Hence the lungs have a tendency to be completely filled, the elastic tissue of the vesicles is stretched, and the thorax is expanded to its fullest capacity. At moderate elevations the system quickly adapts itself to the lessened atmospheric pressure, but, when great heights are rapidly attained, as with aëronauts, copious hæmorrhages from the lungs ensue, and even at the altitude of Denver hæmoptysis frequently occurs in consumptives in the stage of excavation. Dr. Denison says: "The lessened tension of the air and the increased frequency of respiration force the blood to pass more quickly through the lungs, and the rapid and perfect renewal of capillary circulation is opposed to the stasis of early and chronic inflammation. This improved capillary circulation, together with the more perfect expansion of the thorax, loosens and promotes the expectoration of mucus and inflammatory *débris.*" Tissue changes take place more rapidly near the sea than at considerable elevations. The usual experience of new-comers to Colorado is that they lose flesh, and that the sensible perspiration is considerably diminished. With the expansion of the thorax and the increased depth of inspiration a development of auxiliary muscles of respiration takes place, and children born in Colorado have a wider girth of chest than children born in the Eastern and Middle States. As the natural stimulus of an organ is the element upon which it acts, a lung filled and obstructed with pneumonic, caseous, or tubercular matter is mechanically aided to throw off the adventitious substances which obstruct the air-passages. The symptoms of hectic fever abate, and the consumptive, relieved from his night-sweats, chill, and harassing cough, is placed in a favorable condition for recovery. Finally, the rarity of the air produces complete and constant ventilation, which invalids secure by active or passive outdoor exercise. The purity of the air in Colorado is preserved by elevation above the sea, a thin population, and the constant influence of the sun.

The elements of atmospheric electricity and ozonized air I will not here discuss. Authorities state that the electric tension of the air is increased with elevation, as is also the amount of ozone.

The advantages of Colorado for pulmonary consumption have been too recently appreciated to enable me to present extended statistics as to its benefits. Relief is more certain to the consumptive who seeks the aid of its climate in the preliminary stages of the disease before there is much loss of tissue. Of 202 patients, having been ill an average of two years before reaching Colorado, at the end of a year and nine months 47 per cent. were much improved, 22 per cent. were slightly improved, in 11 per cent. there was favorable resistance to the disease, and in 20 per cent. there were extension and advance. Among those of this number in whom the disease had reached the stage of excavation, at the end of two years, 35 per cent. had died, 40 per cent. were resident in the State, and the remainder had been lost sight of. Even this is a favorable showing for the last stage of a fatal disease. Often patients who reach Colorado with tubercular lungs in the stage of softening are obliged to seek a lower altitude, the morbid process being hastened in Colorado. Cases of uncured or chronic pneumonia and fibroid phthisis are frequently aggravated by the altitude and dry air, and cases in which tubercular infiltration is actively progressing, and those in which much lung tissue is involved, are not favorably influenced by Colorado. A contra-indication to high altitude exists in consumptives of advanced years with rigid chest-walls, and in patients with valvular disease of the heart.

A disputed point now comes up regarding the influence of elevation in hæmorrhagic cases. Patients in whom large cavities exist, with denuded blood-vessels near the pulmonary excavation, are apt to have profuse hæmorrhages from the stretching of lung tissue induced by the rarefied air. Dr. Reed, of Colorado Springs, has analyzed 70 cases in his own practice. Of 34 patients in the stage of deposit, 15 had bled before reaching Colorado, and in only one did hæmorrhage recur. Of 34 in whom softening had taken place, 17 had hæmorrhages before and 7 after living in the State. The *rationale* of the cure in hæmorrhagic cases is ascribed to the cause of hæmoptysis, the breaking down of tissue, being arrested. Nervous disorders, chorea, neuralgia, nervous headache, and also cardiac diseases, are often aggravated by the altitude. Yet I know a lady with lungs infiltrated with tubercle, with mitral insufficiency of the heart, and a martyr to facial neuralgia, a resident in the State about three years, who passes eight hours a day in the saddle, and is fond of mowing and irrigating her own lawn, who is an enthusiastic and jealous partisan of Colorado and its climate. That good results in phthisis are accomplished by a prolonged residence on the plains of eastern Colorado there can be no reasonable doubt, and cases of complete cure are not uncommon. Here is found a region sheltered on the west by the Rocky Mountains, which rise precipitously from the plain, the prevailing winds being from the south and east, possessed of a cool, dry atmosphere and a sandy soil, the heat being tempered in summer by daily showers. It would seem that all these conditions are favorable to the consumptive. The nearly invariable warmth of the morning allows the invalid to take daily rides or drives in the bright sunlight of a Colorado sky. Here is also found the stimulus, occupation. Invalids who have reached that stage of improvement which an active mind shows by a desire for occupation are able to find profitable employment in the diversified industries of the State. The vast cattle ranches furnish work for those who are able to live in the saddle. Gardening is a favorite pursuit. An Oxonian, whose lungs became tubercular during a sedentary student life, found profitable employment in selling strawberries from his own garden to the citizens of Colorado Springs.

Dr. Loomis objects to the Colorado climate on account of the enormous diurnal range of temperature. A perfectly equable climate was found in the Mammoth Cave, yet nearly all of the consumptives who engaged in that disastrous experiment perished in its sunless depths. If the lesser thermometric range of London and New York is more favorable to consumptives than the large diurnal variation of Colorado, why does phthisis pulmonalis decimate the population of London and New York while its development is rare in Colorado? Cold is most acutely felt in damp climates, and, moreover, the daily range of temperature in Colorado raises the heat to a point where the invalid can spend some hours in the middle of the day in driving or riding. During the winter of 1883, which I spent in Colorado Springs, in February the thermometer often sank at night to from 12° to 20° below zero, yet at noon the day was sunny and warm enough for hundreds of consumptives to drive up and down the streets of that pleasant little town; and it is further to be noted that this intense cold was not so disastrous to invalids as the damp, chilly winters common in the Eastern and Middle States. In conclusion, it may be said that the best results of the Colorado climate to consumptives are secured by a prolonged residence in the State, with the important auxiliaries of proper diet, clothing, and personal regimen, including discretion in taking active exercise.

THE LESSON TAUGHT BY THE EPIDEMIC AT PLYMOUTH CONCERNING TYPHOID FEVER.*

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That typhoid fever is a specific disease has, in recent years, begun to be generally recognized. Its entire history from inception to termination is that of a disease process separate and distinct from all others. The appreciation of its ætiology is passing through the same phases of doubt and uncertainty which have characterized many other infectious diseases now regarded as specific.

In these days it is almost universally acknowledged that Asiatic cholera, although a disease usually limiting its devastations to localities in which filth and decomposition abound, has its sole cause in one infective agent. But doubt and uncertainty concerning the specific nature of that disease have not been very long removed.

Many respectable authorities still adhere to the opinion that common decomposing or fermenting organic matter is capable of originating typhoid fever *de novo*, yet the weight of authority appears to be drifting toward the belief that this specific disease also is universally caused by one infecting agent, which must enter the human organism before the disease can be produced in man. Most positive facts in support of the latter theory are rapidly accumulating. Reliable observations are numerous, which, in the particular instances related, afford incontestable proof that common fæcal matter had not, in itself, been sufficient to cause the disease. Instances are multiplied where people have for a long time ingested such material with drinking water with impunity—so far as typhoid fever is concerned—until the dejecta from a single patient suffering with this disease have contaminated the water, and caused a sudden outbreak of typhoid fever.

The epidemic of typhoid fever now prevailing at Plymouth, although, perhaps, the most extensive on record (some twelve hundred have been sick and one hundred and thirty have died out of a population of eight thousand), has had its exact miniature in other places, but it is not necessary for our present purpose to go into details. It may be well, however, to set forth a summary statement of the circumstances of Plymouth at the time, and before the origin, of the epidemic.

It has been established beyond reasonable dispute that the hygienic and sanitary surroundings of this town are now, and have been for years, most miserable. Furthermore, it is a fact that water of the Susquehanna River then charged to an unusual degree with the sewage of Wilkesbarre, a city of thirty thousand inhabitants, had been supplied to the people of Plymouth for a week ending fifteen days before the commencement of the epidemic. Yet, notwithstanding these grossly unsanitary conditions, a fair consideration of all the facts bearing upon the cause and origin of this epidemic can, in our opinion, logically lead to no other conclusion than that they alone are not entitled to be regarded as having done more than aided, as secondary factors, some other influence, namely—*the main active cause of the epidemic.*

The scope of this paper will not permit us to dwell upon or enumerate *in extenso* all the facts which support this conclusion. That has been already done in our official report to the Mayor of Philadelphia, and to the relief committee of that city. It is sufficient to mention here the following salient points:

The epidemic is that of genuine typhoid fever, as shown not only by the clinical condition and history of patients examined, but also by a number of autopsies which we were the first to make.

There was no unusual prevalence of typhoid fever in Plymouth, or in the towns around it (including Wilkesbarre), previous to the appearance of the epidemic, and there is not now.

The epidemic began suddenly about the 10th of April of this year and spread with great rapidity, fifty cases occurring daily until five or six hundred of the inhabitants were prostrated.

In the first two or three weeks of the epidemic, those who exclusively used well-water and those who exclusively used river-water escaped the infection. Of children living in houses supplied with well-water, only those who attended the public schools and drank the hydrant-water of the Plymouth Water Company took the disease, while those kept at home went unharmed. It was also noted that those who habitually used beverages other than water were safe from the attack.

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* Read before the State Medical Society of Pennsylvania, May 28, 1885.

On Welsh Hill, a suburb of the town having a population of four or five hundred, mainly supplied by well-water, not one person has been sick of the fever, except a few who frequented the town and drank of the hydrant-water there.

In the village of Broadway, another suburb of Plymouth, containing forty families averaging five members each, there are only two wells, of which the water is considered by the inhabitants to be so unwholesome that it is rarely used for drinking or culinary purposes. The chief water supply there is that of the Susquehanna River, through the pumps and water-mains of the Delaware and Hudson Coal Company, the suction-pipe of which extends out upon the bed of the river eighty feet from the shore, and into the main channel at a point *a half-mile nearer the sewers of Wilkesbarre* than is the pumping station of the water company of Plymouth. In this village not a single case of fever has been found.

In an adjoining village, called Ridge Row, where twenty families live in ten houses, the people are supplied with the same kind of water as are those of Broadway. The one or two cases of fever in this village are with people who had frequented the town of Plymouth and had there drank water from the hydrants. Not a single case exists among those who had exclusively used the Susquehanna or river water.

The facts thus briefly related, in our opinion, conclusively prove that the river or Susquehanna water, although it was unusually befouled with sewage and other contaminating principles, had nothing whatever to do with the origin and spread of this epidemic, but that, on the contrary, the mountain-water—their usual supply—conveyed to the homes of the people the sole cause of the disease. The circumstances of the case are such that the food supply, including milk, could not possibly have caused this general epidemic.

Now let us turn to the facts concerning the contamination of that mountain stream. They also have been already related in detail in the report above mentioned. It may be well, however, to state here that it has been shown that the three lower reservoirs on the mountain stream, which nine months of the year supplies Plymouth with water, were on the 20th of March nearly empty; that in a dwelling on the sloping bank of the stream, a little distance above the third reservoir and within seventy feet of the bed of the brook, there was a case of typhoid fever, running its course through January, February, and March; that during most of this period the ground was frozen and covered with snow; that during the illness of this patient the evacuations passed in the night were habitually carried out and thrown upon the snow toward the stream, *no attempt at disinfection having been made;* that about the 25th of March a thaw began, and was followed by slight rains; that on the 26th of March the superintendent of the Plymouth Water Company inspected the reservoirs, and, finding the two upper ones full, that same evening caused the water of the third reservoir to be let down directly to the lowest reservoir; that on the evening of this day pumping from the Susquehanna River ceased, and the town was again entirely supplied from the mountain stream; that thus nearly three months' accumulation of infectious typhoid-fever dejecta was suddenly washed with the melting snow into the brook, and rapidly reached the lower reservoir, and was thence distributed through the pipes and hydrants of the Plymouth Water Company; that fifteen days after this date the epidemic began; that no other source of unusual pollution of the mountain-water was discovered.

In view of all these facts we can arrive at no other conclusion than that the three months' accumulation of infectious dejecta from the one fever patient sick in that mountain house constituted the sole infectious element of pollution in the mountain-water, and was the sole active cause of the epidemic.

The supreme lesson which this unexampled epidemic of typhoid fever should teach to medical men and health officers throughout the world is, in our opinion, threefold:

First. For the production of the specific infectious disease known as typhoid fever, whether individuals or communities are considered, there are required the presence and action of one specific cause, which, elaborated in the intestinal canal of one or more patients suffering with that disease, must be transmitted in an active state to those susceptible. This specific active cause being absent, typhoid fever can not and does not occur.

Second. Epidemics of typhoid fever are a reproach to the communities which they afflict. They are absolutely preventable and controllable, and, from the standpoint of modern experience, neglect to employ proper means to those ends should be regarded as inexcusable.

Third. It is the bounden duty of the physician in attendance upon any case of typhoid fever, wherever it may be located, to cause each and every evacuation from the bowels to be *immediately* and *effectually disinfected*, and it is of paramount importance also that the danger of infection of the healthy should be further guarded against by the adoption of efficient means for the destruction of any infectious agent which may exist in the water or in the food.

Book Notices.

BOOKS AND PAMPHLETS RECEIVED.

The Invalid's Tea-Tray. By Susan Anna Brown, author of "Forty Puddings," etc. Boston: James R. Osgood & Co., 1885. Pp. 67.

Tracts on Massage. No. 1. The Art of Massage. Translated from the German of Reibmayr, with Notes, by Benjamin Lee, A. M., M. D., Ph. D., etc. Philadelphia, 1885. Pp. 41.

Dott. Pietro Panzeri.—Le risorse curative della moderna ortopedia. Prelezione al corso libero di ortopedia tenuto presso la R. Università di Pavia nell' anno scolastico 1884–'85. Milano: Pietro Agnelli, 1884. Pp. 19.

THE
NEW YORK MEDICAL JOURNAL,
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Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, JUNE 13, 1885.

THE TREATMENT OF RUPTURE OF THE BLADDER.

THE influence of modern teaching in regard to peritoneal surgery is no more strikingly shown than in the treatment of this formidable injury. The recognized course in rupture of the bladder was formerly to establish free drainage by performing cystotomy, a rational procedure, yet one which was frequently attended with imperfect results. It is true that writers on surgery suggested laparotomy as an extreme measure, but never with much enthusiasm. With the growth of abdominal surgery there have been ample opportunities of studying intraperitoneal wounds of the bladder of accidental origin. Non-union is the exception in such wounds, provided the edges have been carefully coaptated, and peritonitis from this cause alone is rarer still. Observations of these facts and the knowledge of the tolerance of the peritonæum have so emboldened modern surgeons that now the teaching is not merely to establish drainage and allow the wound to close by granulation, but to open the abdomen at once and sew up the rent in the organ. Güterhock, in a recent article in the "Archiv für klin. Chirurgie," after referring to the unfavorable results which frequently followed the old method of treatment, boldly says that "it is incumbent upon every surgeon to resort to laparotomy without delay when the diagnosis of vesical rupture is at all certain." He advises sewing the edges of the rent to those of the abdominal wound, the subsequent treatment being the same as that pursued after supra-pubic lithotomy. The author makes no distinction between large and small, extra-peritoneal and intra-peritoneal wounds, all being treated in the same manner. This is certainly a mistake, since, as was before remarked, small accidental openings into the bladder, occurring during the course of a laparotomy, are frequently closed with fine sutures, no provision being made for drainage except by catheterism, and the result is perfectly satisfactory. There is room for the exercise of considerable judgment as to when the tear should be sutured *in situ*, and when an external communication should be established. There are cogent reasons why recent wounds of moderate size with clean-cut edges should be treated intra-peritoneally, especially if they are located, as is so often the case, high on the posterior wall.

Bold as the procedure so warmly advocated by the German surgeon may appear, in the light of our present experience it is not only justifiable but is often a duty.

NEWS ITEMS, ETC.

The Importation of Infected Rags is now to be left wholly to the discretion of local customs and sanitary officers, the Secretary of the Treasury having revoked all past orders relating to the matter, and issued the following circular: "Whereas it has been conclusively shown to the department that, under existing laws, no general regulation can be legally framed whereby the disinfection of old rags can be accomplished in foreign ports to the satisfaction of the several health authorities, therefore it is ordered: 1. That all circulars of this department concerning the disinfection of imported old rags are hereby revoked, and that old rags hereafter imported from foreign countries shall be admitted to entry at the Custom-House only upon the production of permits from the health officers at the ports of importation duly authorizing the landing of the same. 2. Vessels carrying old rags arriving at any United States quarantine will be detained by the quarantine officers, and held subject to the order of the proper health authorities at the port of destination."

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 9, 1885:

DISEASES.	Week ending June 2.		Week ending June 9.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	5	1	3	0
Typhoid fever	12	4	20	2
Scarlet fever	60	12	76	15
Cerebro-spinal meningitis	5	3	3	4
Measles	88	17	106	11
Diphtheria	78	27	63	22
Small-pox	1	0	0	0

Small-pox.—During the past week the continued spread of the disease in Montreal has been announced, and two or more European steamships have reached this port with cases on board, but thus far we have no information that the infection has been conveyed from them.

Cholera.—Outbreaks continue to be reported from several Spanish provinces, and stringent sanitary precautions are enforced. Dr. Ferran's prophylactic inoculations have been ordered to be stopped. The International Sanitary Conference in session at Rome is said to have decided to extend the Mediterranean quarantine regulations to the Caspian Sea, and to require the rigorous disinfection of overland passengers from the East, also a change of train by passengers passing from an infected into a non-infected district.

The Massachusetts Medical Society.—Besides the annual dinner, the social aspect of the recent meeting of the society included a reception by the president, Dr. Charles D. Homans, at which there was a large attendance, and which, we learn, was very enjoyable.

Charity Hospital.—Dr. W. M. Chamberlain having resigned his position as visiting physician to the hospital, his associates of the medical board voted to request the commissioners to transfer him to the consulting staff, and he has accordingly been appointed a consulting physician.

The New York College of Medicine and Surgery.—The Governor has vetoed the bill incorporating the institution so styled. We trust that this rebuke to unnecessary special legislation will not pass unheeded. At all events, the legalization of an objectionable concern is prevented for the present.

Consular Examinations of Vessels.—We learn from the "Medical Times and Gazette" that a proposition from the American delegate to the International Sanitary Conference now sitting in Rome, authorizing consuls to verify the sanitary condition of vessels leaving for the countries represented by them, was rejected by a vote of nine to two, nine of the delegates not voting.

The Sixth International Pharmaceutical Congress, according to the same journal, will be held at Brussels from

August 31st to September 6th, and will consider, among other matters, a plan for a universal pharmacopœia.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending June 6, 1885.*

WYMAN, WALTER, Surgeon. To inspect unserviceable property at Baltimore, Md. June 6, 1885.

CARTER, H. R., Passed Assistant Surgeon. To inspect unserviceable property at San Francisco, Cal. June 6, 1885.

BATTLE, K. P., Assistant Surgeon. To inspect unserviceable property at New Orleans, La. June 6, 1885.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 29, 1885, to June 6, 1885:*

HORTON, S. M., Major and Surgeon. Ordered for duty as Post Surgeon, Fort Riley, Kansas. S. O. 78, Department of the Missouri, June 1, 1885.

CLEARY, P. J. A., Major and Surgeon. Ordered for duty as Post Surgeon, Fort Lyon, Colorado. S. O. 78, Department of the Missouri, June 1, 1885.

BROWN, J. M., Major and Surgeon. Assigned to duty as Post Surgeon at Fort Omaha, Neb. S. O. 49, Department of the Platte, May 29, 1885.

BRECHEMIN, LOUIS, Captain and Assistant Surgeon. Relieved from duty at Fort Omaha, Neb., and assigned to duty as Post Surgeon at Fort D. A. Russell, Wyoming. S. O. 49, Department of the Platte, May 29, 1885.

AINSWORTH, F. C., Captain and Assistant Surgeon (Department of Texas). Ordered for temporary duty in Department of the Missouri. S. O. 58, Department of Texas, May 25, 1885.

PORTER, JOSEPH Y., Captain and Assistant Surgeon. Granted leave of absence for six months on account of disability. S. O. 126, A. G. O., June 3, 1885.

DAVIS, WILLIAM B., Captain and Assistant Surgeon. Granted leave of absence for one month, from May 25, 1885. S. O. 122, A. G. O., May 28, 1885.

ROBERTSON, R. L., First Lieutenant and Assistant Surgeon. Leave of absence extended one month. S. O. 123, A. G. O., May 29, 1885.

Society Meetings for the Coming Week:

MONDAY, *June 15th:* New York County Medical Association; Medico-Chirurgical Society of German Physicians, New York; Chicago Medical Society; Hartford, Conn., City Medical Association.

TUESDAY, *June 16th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); Medical Society of the County of Kings, N. Y.; Ogdensburg, N. Y., Medical Association.

WEDNESDAY, *June 17th:* Northwestern Medical and Surgical Society of New York (private): Philadelphia County Medical Society (clinico-pathological); New Jersey Academy of Medicine (Newark).

THURSDAY, *June 18th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

FRIDAY, *June 19th:* Roman Medical Society, New York (private); Chicago Gynæcological Society.

SATURDAY, *June 20th:* Clinical Society of the New York Post-Graduate Medical School and Hospital.

OBITUARY NOTES.

Professor Panum, of Copenhagen.—Few deaths could, at the present day, cause as genuine and wide-spread regret as that lately announced of the honored president of the last International Medical Congress, Professor C. L. Panum, of Copenhagen, the main events of whose life have already been simply recorded by our daily press.

Dr. Panum was born at Rönne, in Bornholm, an island of the Baltic, lying off the extreme southerly coast of Sweden, where his father was a well-educated practicing physician. After having received an excellent preliminary education, young Panum was graduated from the Universities of Copenhagen and Kiel. He early developed an unusual talent for physiological research, and, his abilities in this direction finally becoming recognized, he was appointed Professor of Physiology in the Medical Department of the University of Kiel. This position he held until the annexation of Schleswig-Holstein by Bismarck to Germany, when, loyal to Denmark, and unwilling to live under German rule, he returned to Copenhagen to accept the chair of physiology in that city. Here he labored for many years, winning, by his extraordinary ability and industry, a foremost position among the scientific investigators and writers of Europe, and adding greatly to the reputation of the university by the brilliancy of his own renown.

As to the permanent records of his work, Professor Panum was one of the ablest and most successful advocates of vivisection of the present day. His writings upon this subject are replete with strong, temperate, and philosophical arguments in favor of a proper employment of this most valuable scientific resource. His publications contain also the results of a large amount of original and careful scientific investigation. Among the more important of them may be mentioned his researches in the matter of transfusion of blood, the causes of embolism, and various phenomena connected with the digestive functions. His last contribution was the masterly address, made before the general meeting at the last International Medical Congress, entitled, "Researches concerning Food Rations for Men in Health and Disease, particularly in the Hospitals, the Infirmaries, and the Prisons of different Countries." A subject of more vital and practical importance could hardly have been selected, and, it is safe to say, no writer could have treated it with greater authority, learning, and skill. Personally, Dr. Panum was known in Europe throughout a remarkably wide circle; and this, in some measure, from his frequent visits to the principal capitals. These, in many instances, were made for purposes of general study and enlightenment, the expenses of travel being sustained by the university, so that the face and the personality of the doctor were familiar to the frequenters of the chief schools of medicine, and always heartily welcomed among them. This practice on the part of the University of Copenhagen of sending abroad one of its leading professors, at regular intervals, to investigate and bring home the latest scientific information to be gained from outside sources, is as creditable to the liberality, the progressiveness, and the far-sighted good judgment of the Danes as it is characteristic of them, and commends itself as well worthy of imitation. The crowning achievement of Professor Panum's life was the grand success which he attained as the efficient head of the Eighth International Medical Congress. It was no light and easy task for Copenhagen to undertake to vie with London and other great European centers in the organization, management, and general entertainment of so huge and unwieldy a body as there assembled; still less could it have been supposed that a man known mainly as an investigator and an expounder of pure scientific doctrine could rise to the necessities of a position which seemed to require at once deep learning, great executive ability, the skill of a diplomat to avoid complications, and, withal, the thorough *savoir-faire* of an accomplished man of the world. To say that these qualities were centered in Professor Panum is but another way of describing him as the man of trained thought and systematic method, whose absolute simplicity and truthfulness of character, combined with a dignity born of the highest type of self-respect, and irradiated with that charming geniality of manner which all who had the good fortune to meet him will so well remember, were sufficient to win the entire confidence and the enthusiastic co-operation of his associates, and the unqualified regard of his guests, and thus, by straightforward and legitimate means, to secure the highest measure of success. His loss, severe indeed to his countrymen, will be felt wherever his sterling qualities, all too rare, have become known. D. B. D.

Proceedings of Societies.

MASSACHUSETTS MEDICAL SOCIETY.

One Hundred and Fourth Anniversary Meeting, held at Boston, Tuesday and Wednesday, June 9 and 10, 1885.

The President, Dr. Charles D. Homans, of Boston, in the Chair.

Tuesday's Proceedings.

The Pathogenesis of Certain Affections of the Skin.—Dr. George N. Tilden, of Boston, read a paper with this title.

The reader alluded to the fact that the introduction of various drugs into the stomach sometimes caused the appearance of a cutaneous eruption. The well-known action of the iodine and bromine preparations was referred to, and the statement was made that recent microscopic investigation had shown that these lesions might originate in dilatation and cellular infiltration of the capillary network around the sebaceous glands. Other forms of cutaneous lesions might be caused by many different drugs: 1. Simple and evanescent erythematous patches, unattended by constitutional disturbances and not followed by desquamation, had been observed after the use of quinine, copaiba, iodide and bromide of potassium, cubebs, and benzoate of sodium. 2. Papulæ, erythematous lesions, attended with exudation into the cutaneous tissues and resembling in some cases measles, in others the various forms of erythema multiforme, had been produced by the same drug. 3. A different form of erythematous dermatitis, not infrequently accompanied by constitutional derangement, followed by desquamation, simulating the rash of scarlet fever, had occurred after the administration of salicylic acid, quinine, opium, morphine, and iodide of potassium. 4. An urticarial eruption followed the use of the same drug, also that of chloral hydrate and arsenic. 5. Purpuric eruptions were caused by the same class of drugs. Much less common than the foregoing were: 1. Bullous eruptions after the use of iodide of potassium and rarely after that of bromide of potassium and copaiba. 2. Vesicular eruptions resembling eczema. 3. Scaly eruptions resembling psoriasis after the use of borax.

The drugs most prone to produce a cutaneous eruption were quinine, salicylic acid, copaiba, preparations of iodine and bromine, and antipyrine, the latter drug producing disturbance of the skin in ten per cent. of the cases in which it was used. The pustular lesions after the use of irritating drugs were thought to be due to deposits on the skin. Other varieties of medicinal eruptions were due to what looked like disturbances of the vaso-motor system, and belonged to the angio-neurotic lesions of the skin, which consisted of various degrees of dilatation of its capillaries, attended with more or less exudation of serum and wandering cells. When hæmorrhage took place in this class there must be some change in the capillary walls, as the red corpuscles had no amœboid movement. The entrance of vaccine and so-called septic material into the circulation also produced morphological changes in the skin, as shown by various eruptions which often appeared after vaccination, diphtheria, puerperal fever, and the so-called "scarlet fever" after surgical operations. The eruptions which have been spoken of were not, properly speaking, diseases of the skin, but were symptomatic of the presence of some foreign substance in the circulation. In a crude way they might be arranged in three groups: Angio-neurotic, reactive inflammatory and suppurative, and those of a hæmorrhagic variety.

Consanguineous Marriages, their Effect upon Offspring, was the title of a paper read by Dr. Charles F. Withington, of Boston. The speaker referred to the great discrepancies apparent in the observations made by different persons upon this subject, and even the intrinsic contradictions in the figures of individual observers. The traditional belief on this subject implied a specific evil effect of such marriages due to the mere fact of non-renewal of the blood. Attempts at settling this question by the statistical method were hindered by the difficulty of obtaining cases that were not to some extent selected, on account of the tendency to remember "striking" or disastrous cases; also by the difficulty, in many instances, in distinguishing between the effects of consanguinity and those of morbid inheritance. The speaker then presented the results of his own observations in 108 cases of consanguineous marriage, arranged in tabular form. The whole number of children born was 413 from 103 couples. Excluding from the category of "healthy" all who were defective in any degree, even those having strabismus, all who were below the average in intelligence or bodily vigor, all who had phthisis or any other inherited constitutional taint, even though it did not appear till late in life, and all who died in infancy except when the death was known to be from some acute disease, there remained 312 "healthy" individuals, about 75½ per cent. of the whole number. Among the more important diseases and defects were 12 cases of deaf-mutism (all occurring in a town on the island of Martha's Vineyard), 7 of insanity, 13 of idiocy, and 15 of consumption. Only 57 of the unions were known to have lasted the full period of conjugal fertility (25 years or over), and these produced 282 children, an average of 5 for each couple. In 17 of the marriages one or both of the contracting parties were themselves descended from a consanguineous union; 15 were fertile, producing 68 children, of which 48 were "healthy." The table also gave information regarding the married life of 104 couples composed of persons consanguineously descended; 41 of them, which were known to have endured through the complete childbearing period, produced 201 children. In this generation there were 8 deaf-mutes, also all from Martha's Vineyard. The view was then announced that the evil results which occurred from consanguineous marriages were due to the operation of the ordinary laws of morbid inheritance dependent on the principle that like produced like, and that consanguinity *ipso facto* had no influence either for good or for evil. The arguments against this view were briefly taken up, and it was urged that, when simple heredity was known to play so important a part, it was unreasonable to conjure up some other influence which at most could account for but a small share of the cases of obscure maladies like deaf-mutism and hemeralopia.

Labor complicated with Fibroids was the title of the next paper, by Dr. James R. Chadwick, of Boston. After reporting at length the histories of ten cases of labor with this complication that had come under his observation, he summarized the results as follows: Miscarriage, 1; recovery of the mother, 7; death of the mother, 2; living children, 7; still-born children, 2. The prognosis for the mother in the set of cases reported was much better than was indicated by the accepted statistics. Regarding the position of the child at the time of labor, in the cases reported, seven were presentations of the head, and two transverse presentations. In the two cases of transverse presentations the tumor partially filled the pelvis, so that a transverse position of the child must almost of necessity have occurred. This should be borne in mind in the management of such cases. With regard to the special complications of labor due to the presence of the tumor, the cases illustrated the frequency of inertia of the uterus and the liability to septic poisoning. This latter danger was hardly mentioned by many authors. The degree of danger to which the woman was exposed undoubtedly depended greatly upon the precise location of the tumors. In six cases where the tumors appeared to be subperitoneal the patients passed through labor and childbed without complication, except for slight septic infection in one case. In three cases the tumors were submucous; two of the patients died, and the third recovered after septic infection in childbed. The location of the tumor in the lower segment of the uterus, so as to interfere with the expulsion of the child, was the most serious element of danger. Should this condition exist and a vigorous attempt, under ether, to elevate the tumor from the pelvis early in pregnancy fail, the induction of abortion, or at least of premature labor, would be the safest course to pursue. The cases demonstrated that the tumors increased enormously in size with the progress of the pregnancy, but in six of the eight patients who survived no traces of the tumor could be found post partum at observations recorded after an interval varying from two weeks to twelve months. In the case of miscarriage, which occurred at the end of three months and a half, one tumor was entirely absorbed and the other was unaltered in size. As aids to diagnosis the following points should have great weight: 1. An area of flat percussion beyond the limits of the tumor or tumors. 2. Unduly rapid growth of a fibroid. 3. Bluish discolorations of the vagina. As to treatment, intra-uterine disinfectant douches should be administered throughout the puerperal period in all cases, even before the supervention of symptoms. As to prognosis, fibroids were, as a rule, absorbed during involution of the uterus, or soon after.

The Climatic Treatment of Phthisis was the subject of the first paper read at the afternoon session, by Dr. Harold Williams, of Boston. After mentioning that he had collected a list of one hundred and seventy-eight different islands, districts, and towns which, possessing all the extremes of therapeutic climate, were alike recommended for the treatment of phthisis, the author proceeded to divide these health resorts into four arbitrary divisions: The ocean itself; seaboard and island stations; inland stations; and mountain stations. The ocean (sea-voyages) and the mountain stations presented the two extremes of therapeutic climate. The meteorological differences of these extremes were, that the sea-air, as compared with the other divisions, possessed the maximum of oxygen, the maximum of barometric pressure, the maximum of aqueous vapor, the maximum of ozone, small quantities of iodine and bromine, the minimum of organic impurities, more regular variations of barometric pressure, the minimum of diurnal variation of temperature. Mountain air, on the contrary, showed the minimum of oxygen, the minimum of barometric pressure, the minimum of aqueous vapor, an excess of ozone, a diminished amount of organic impurity, greater and more irregular variations of barometric pressure, the maximum diurnal variation of temperature, the highest degree of coldness, and the greatest diathermancy. These characteristics constituted the attributes of the extremes. Island and seaboard stations and inland stations resembled one or the other of these extremes according to their altitude, since it was mainly upon altitude that these differences depended. The physiological effects upon man of each of these meteorological differences were then considered in detail, the writer summing up with the conclusion that up to the present time there was no physiological evidence that any of these meteorological differences were of the least value in the treatment of phthisis, unless it was that the sea-air, as experienced in ocean voyages, was better than all others in that it was warmer and purer, and presented slighter variations of temperature and humidity. But the writer pointed out that sea-air was available for but very few.

The clinical evidence had not yet proved one station or class of stations to be more efficacious than another. The doctrine of immunity from phthisis was then alluded to, with the view of showing the contradiction of statements upon this subject, and the absurdity of basing an argument upon the favorable climate of a locality because of the rarity of phthisis in that locality. The writer then briefly alluded to the sentimental aspect of the question, and then proceeded to sum up the conclusions warranted in the present state of our knowledge. Patients sent away generally did better than those who remained at home, this being a matter of opinion rather than of statistical proof. He thought that the beneficial effect of this change of climate was due rather to the *change* than to the *climate;* that it was not to the meteorological *differences* in climate, but to factors which all health stations might possess in common, that all were indebted for their reputations. These factors he believed to be the change itself, the greater purity of the air, the increased facilities for open-air exercise, and the improvement in the hygienic surroundings of the patient, consequent upon the greater attention paid to the habits of living. The health resorts of the group mentioned, though similar in character, were by no means to be considered as individually equal, the superiority which one possessed over another lying in the greater hygienic advantages which it afforded. An ideal health station for this disease should be newly and sparsely settled; should possess a pure water supply and adequate drainage; should be of a dry, porous soil; should be favorably situated with respect to neighboring heights, marshes, and prevailing winds; it should be equable in temperature, and should possess the highest number possible of pleasant, sunshiny days. It should not be warm enough to be enervating, nor so cold as to interfere with a proper ventilation of the houses, or with outdoor exercise. It should afford plenty of out-door amusement, it should not be crowded with consumptives, and it should be sufficiently unfashionable to admit of hygienic dress. Above all, it should afford suitable accommodations for the patient. The house should be carefully selected, the chamber of the patient should be large and sunny, and the food should be abundant, palatable, and varied. A health resort that offered these advantages in the highest degree would be found by experience to be the most suitable for a phthisical patient, let the barometric pressure, the aqueous vapor, and the "diathermancy" be what they might.

How a Lesion of the Brain results in that Disturbance of Consciousness known as Sensory Aphasia was the title of a paper by Dr. Morton Prince, of Boston. In Broca's time, he said, all aphasia was thought to be the same, but it was now known that there were different forms, depending upon lesion of different centers. For the normal faculty of speech the co-operation of at least three different functions was necessary: 1. It was necessary to be able to hear the sounds of words (internally as well as externally); 2. There must be a center for the intellect proper when the words were combined with ideas; 3. We must be able to co-ordinate the motor impulses to the muscles of the apparatus of speech. These different faculties were distinct, and had separate anatomical centers. Motor aphasia was due to an injury to the motor center in the third left frontal convolution; sensory aphasia to a lesion of the first and second left temporal convolutions. These conditions could be represented diagrammatically. Examples of motor and sensory aphasia were then given. Sensory aphasia was then further considered. The question of the paper was then presented: What was meant by a center for words, and how did an injury to this center result in a loss of the faculty of hearing words? As ordinarily described, it was said that the word-sounds were the function of the cells, or that molecular vibrations in the cells were accompanied by the word-sound. But this was both incorrect and insufficient. To understand the matter it was necessary to know the nature of a molecule and that of molecular vibration. This was explained by diagrams. A molecule was something we pictured to ourselves as having color, shape, size, hardness, etc. But these qualities did not reside in the molecule, but were sensations in the mind of the observer, and were made artificially to exist outside of us and to constitute the molecules; they were only our sensations, and the effect of the something called a molecule acting on our senses. But, after these had been abstracted from the molecule, what remained behind? This something was unknown to us and was the *reality* of the molecule. In the same way, vibration of molecules was only a form of our sensations, and, like the qualities of color and hardness, did not exist outside of our minds. What, then, did exist outside of us? This was called the reality of the vibrations. Was this also unknown? No. The reality of the vibrations of the molecules in the cells in the temporal convolutions was the word-sounds. When these cells were injured their realities could not exist, and hence word-deafness resulted. This principle was then extended to the connection between the mind and the brain in general. A recognition of it elucidated much that was obscure in mental pathology, and explained the influence of the mind over physiological and pathological processes.

Some of the Mental Aspects of Nervous Diseases.—Dr. Henry R. Stedman, of Boston, read a paper on this subject, referring to the foothold gained by physical disease (as distinguished from mental) in the classification of mental disorders through its increased prominence in their causation. Progress in this direction had resulted in taking insanity from the isolated position it had long held as a comparatively independent disorder, and had invested it with a far greater and more general clinical and pathological interest. Then taking up nervous affections as physical disorders more nearly allied to insanity, the author first mentioned the mental symptoms short of insanity which were likely to complicate the more prominent structural disorders of the brain and cord, and afterward the association of the latter with actual insanity. He was of the opinion that the mental symptoms of organic lesions of both brain and cord in the vast majority of cases took the form of dementia or greater or less enfeeblement of the mind as a natural consequence of degenerative brain-change. Examples of true mental aberration with delusions—a perversion rather than a loss of mental activity—were given, but this state was not often found to accompany these structural affections, and could not be accounted for in the same way as the first mentioned and more usual mental condition. In this connection the mental aspects of cerebral apoplexy, cerebral syphilis, locomotor ataxia, and disseminated spinal sclerosis were reviewed. The mental side of so-called functional nervous disorders was next examined under its various conditions, epilepsy, hysteria, hypochondriasis, chorea, and delirium tremens being considered separately. These had, as everybody knew, no discovered anatomical lesion, and in them loss of mental power was the exception, while an undue activity of the mind with a varying degree of perversion of ideas and lack of self-control were the chief mental manifestations on either side of the boundary between comparative sanity and madness. The principal exception to this rule—viz., the dementia of epilepsy—was really due, the reader thought, to structural alteration, and he grounded his belief on accepted histological changes due to the excessive functional disturbance of repeated convulsions. General paralysis of the insane was next considered as a nervous disorder and its fundamental distinction from ordinary insanity proper pointed out. In the course of this paper he advocated special attention to the mental change following many cases of cerebral apoplexy. He deprecated the tendency to unhesitatingly ascribe to cerebral syphilis cases of insanity occurring in syphilitic subjects, and suggested caution in deciding between locomotor ataxia and general paralysis. He advised keeping in mind the probability of having to do with incipient general paralysis in cases in which convulsions, apparently epileptic, occurred for the first time in adult life. Hysterical symptoms as the forerunners of insanity were less common, the reader thought, than was generally supposed. He knew of many instances in which proper precautions had been neglected for want of careful discrimination between actual hysteria and the altered disposition preceding an outbreak of insanity. The mental complications of chorea in severe cases had caused several patients in his experience to be considered as simply insane, and to be committed to an asylum unnecessarily. The gradual development of acute alcoholic insanity from delirium tremens, its favorable prognosis, and the possibility of home treatment in patients with ample means were alluded to, and the liability of mistaking this disorder for ordinary non-toxic insanity or for general paralysis was touched upon. The reader closed his article with a plea for a closer examination of the mental state in nervous disorders, and disclaimed any bias which should give that feature undue prominence, but said that serious mental complications were few compared to the myriads of cases of nervous disease. Nevertheless, many awkward mistakes and perhaps grave accidents might, he thought, be avoided by early and careful attention to the associated mental phenomena.

Officers for the Ensuing Year were elected as follows: President, Charles D. Homans, of Boston; vice-president, Dr. Munsell, of Harwich; treasurer, Dr. Frank W. Draper, of Boston; corresponding secretary, Dr. Charles W. Swan, of Boston; recording secretary, Dr. Francis W. Goss, of Roxbury; librarian, Dr. Edwin H. Brigham, of Boston; orator, Dr. R. M. Hodges, of Boston; anniversary chairman, Dr. Harvey, of Westbury. The various committees chosen were the same as last year.

(*To be concluded.*)

ILLINOIS STATE MEDICAL SOCIETY.

Thirty-fifth Annual Meeting, held at Springfield, Tuesday, Wednesday, and Thursday, May 19, 20, and 21, 1885.

Dr. D. S. Booth, of Sparta, in the Chair.

Tuesday's Proceedings.

The Address of Welcome.—After a prayer, by the Rev. W. F. Mushgrove, D. D., the Governor of the State, the Hon. Richard J. Oglesby, gave the address of welcome, in which he cordially congratulated the society upon the auspices under which the meeting opened, and paid a glowing tribute to the profession of medicine. Dr. E. P. Cook, of Medota, replied in behalf of the society.

The President's Address was then delivered. Young physicians, he said, should begin practice where the older ones left off. They should study without season (*i. e.*, without a limited prescribed length of time) at the bedside, and should be well advanced beforehand in the preliminary branches at least. At the top of the ladder there was abundance of room, while at the bottom there was none. Medical societies were doing a great good intellectually, socially, and morally. He then referred to what was done at the ninth annual meeting of the American Academy of Medicine, recently held in Baltimore, whereat a committee of two was appointed to look into the expediency of establishing State boards of medical examiners. He suggested that a committee be appointed from this society also to memorialize the Legislature to appoint a State medical examining board. Of what value or use was an unknown diploma? By this was intended a diploma from an unknown college. It was an unknown quantity, and the doctor possessing it had not received a thorough medical training, and could not therefore be expected to attain a high degree of prominence any more than an unlearned lawyer would be expected to become a judge. Yet, on the other hand, there was a certain class of physicians, with but little book knowledge, who succeeded well, because they had good judgment and tact. Specialties and specialists were next alluded to. There were those who treated special organs, although knowing but little of the remainder of the human system. This, of course, should not be the case. Inherited aptitude was a valuable adjuvant to a physician. The chief end and object of all our studies was the application of medicines in the treatment of disease. Regarding the female, she who had entered our profession, for one be welcomed her. He then alluded to the practices of preventing conception and inducing abortion, which he characterized as sins. Oftentimes sexual relations were very low. Clergymen had been known to commit flagrant sins, and afterward become parties to a still greater crime, that of participating, indirectly perhaps, in the murder of an unborn babe. But, to revert to the subject of the married woman, how many attained the age of forty that were not in impaired health? Why was it that the gynæcologist was so frequently consulted, or more often than any other class of specialists? It was too often because his patient had got rid of an ovum or fœtus. In other words, it was because a wife who had sinned oftenest suffered most. Reference was then made to the harm done to young girls by forcing their education. Sanitation was referred to at some length, with the adjuration, "Be ye therefore clean in mind and body."

In conclusion, he thanked the members for the honor they had conferred upon him in electing him president. His final remark was that success and happiness had marked our era, and he trusted that, when our career had ended here below, peace, success, and happiness would be ours in the world beyond.

The Report on Gynæcology was the first order at the afternoon session, and Dr. David Prince, of Jacksonville, the chairman of the committee, read an exhaustive paper that contained a general *résumé* of the advancements made during the past year. It had reference largely to the various new instruments that had been introduced, a number of which were exhibited.

The Report on Obstetrics was next read by Dr. C. W. Earle, of Chicago, chairman of the committee. At the beginning he recited the practical part only of his own personal experience. He next alluded to the ring of Bandl, and sketched the anatomical characters of the cervix. After this he recited in detail the effects of *Cimicifuga racemosa* during pregnancy and parturition. Among its properties was a positive sedative effect on the parturient woman. Hydrochlorate of cocaine was alluded to, and it was suggested that it might be used to dilate the os uteri in parturition. Electricity was a valuable agent in certain cases of uterine inertia. The faradaic current was the best form. The use of antiseptic solutions as intra-uterine injections was dwelt upon. One of bichloride of mercury, seven grains and a half to the pint of water, was of sufficient strength; the same also applied to carbolic acid. Albumin in the urine in parturition, when convulsions set in, was referred to. The prophylactic measures were to give iron, attend to the skin and other emunctories, prohibit the wearing of tight clothing, etc., although puerperal eclampsia might occur without albuminuria. General dietetic measures should be carefully carried out, and hot baths also were of great value, and would not induce premature labor. *Apocynum cannabinum* was a valuable drug to be used in this condition.

Regarding the occipito-posterior position, it gave more trouble than all the other head presentations combined. In the third or fourth position the head would rotate and assume the second position. These labors were difficult on account of the waste of uterine power. We were generally obliged to resort to the use of the forceps to complete the delivery; or, while the woman was anæsthetized, the hand could be introduced into the uterus and the head turned.

In regard to the forceps in breech presentations, his first case had occurred during the early part of last year, and he had had since that time five additional cases, and the application of the forceps to the breech had been satisfactory.

As a usual thing, he would advise against artificial rupture of the membranes, and against urging the patient to bear down. If necessary, morphine or chloral might be given for severe pain and to relax the tissues.

In cases of laceration of the perinæum the dangers were great from septic germs, and the time for practicing the old method of repair had passed. We must repair the injury at once. A single suture would often be sufficient, but, whether one or four sutures were used, some antiseptic solution should be used for several days.

No two practitioners treated retention of the membranes and placenta exactly alike, nor were the cases quite alike. The causes that produced simple retention of the placenta were inertia, hour-glass contraction, extreme rigidity of the os uteri, etc.

Credé's method was referred to, also the giving of ergot, the use of the tampon, curette, placental forceps, and uterine dilators, and, lastly, washing out of the uterus. More than seventy years ago Denman had written a fair article on extra-uterine pregnancy. The treatment at the present time was especially by the use of the electric current at the early stage, when the diagnosis had been made out.

Dr. Prince, of Jacksonville, recommended cold water for controlling the hæmorrhage in cases of retention of the secundines. No ill consequences would follow its use. The water should be allowed to fall upon the abdomen from a pitcher in a small stream. It brought on rapid and complete contraction of the uterus and was convenient at all times.

Dr. C. Truesdale, of Rock Island, referred to the immediate operation for laceration of the perinæum. Any time within twenty-four hours was sufficiently early. The stitching should be thoroughly done, as otherwise the flow of the lochia over the parts would defeat the object. One stitch, if well applied, would suffice, whereas if loosely applied it would only expose the patient to greater dangers.

Dr. E. Wenger, of Gillman, thought that, so long as the membranes were not ruptured and there was hæmorrhage, we should proceed to rupture them and otherwise facilitate the expulsion of the contents of the uterus by giving ergot, etc.

Dr. F. E. Waxham, of Chicago, had treated hundreds of cases of abortion, and had never yet used a curette, and he had used the placental forceps only once. He used irrigations of hot carbolized water, and gave ergot internally. By this method he had seen the temperature reduced from 105° F. to the normal point.

Dr. G. C. Kreider, of Springfield, recited a case of puerperal septicæmia in which, he thought, had the patient been treated by any other method, she would surely have died. For twenty-four days the temperature was 103·5°. Quinine and opium were of no benefit. The next day after he had been called to visit the patient her temperature was 105° F., and her pulse 130. The uterus was curetted, and iron and collodion were applied. An ice-water coil was laid over the abdomen.

The Report of the Committee on Materia Medica and Therapeutics was then read by Dr. T. M. McIlvaine, of Peoria, who took for his subject "Therapeutics Natural or Medicinal, and Therapeutics Non-medicinal." The paper was in many respects almost a counterpart of that read by Dr. Austin Flint some time ago, although Dr. McIlvaine assured his hearers that his paper was written prior to his having read Dr. Flint's essay. The non-medicinal plan of treatment was always to be followed when possible. But few new remedies ever went beyond a dozen years of trial before they were discarded, and we returned to those that had long been known. In the non-medicinal treatment of the sick it was sometimes well to pay attention to their perverted appetites, often due to the disease. The writer knew of one patient with typhoid fever who drank nine gallons and a half of beer in seven days, and recovered. A case of pelvic cellulitis was also cited in which the patient had not retained anything in her stomach for days, when she was permitted to eat sauerkraut. At the first attempt she ate two tablespoonfuls (and it was fermented too). This amount was relished and retained, and in a little while she called for more. It was given her again and in larger quantities, and continued for several days, and this patient also recovered. The essay was closed with an allusion to the good effect of mental influence on the sick. The "faith cures" of newspaper articles were alluded to, and the writer thought them deserving of study.

Dr. E. P. Cook, of Mendota, thought there were three classes of medication: Positive medication, rational therapeutics, and *moonshine*, which was what our homœopathic friends practiced.

Dr. N. S. Davis, Sr., of Chicago, found one fault with the report, namely, the statement that medicines were given to *cure* all diseases. Did we not do ourselves an injustice in making such misrepresentations? In the lessening of disease, we were not much ahead of the medicine of two decades ago. Was it because we had had too much faith in medicine, or because we had not made a close adjustment of medicine to disease? We should keep the balance up in disease, and, where there was disintegration going on in one part or organ, we should counteract this by propping up the system elsewhere. The fashion nowadays was to run after microbes. It was all very well to kill them, but let us not kill the patient in trying to catch the microbe. He had rather a patient would recover even if the microbes escaped. All extravagances were to be avoided. If the heart's action was too frequent, we should repress it; if the temperature was too high, we should lessen it; if the pulse flagged, we should prop it up, as well as the nervous system. Wholesale feeding would not do, as had been illustrated by the cases cited in the paper, nor would he belittle the idea of inspiring confidence in a patient. Patients differed widely in their own estimation of the danger they were in. A disposition to exaggerate evils should be checked.

Dr. T. F. Worrell, of Bloomington, thought that a common mode of prescribing was (as he illustrated by a prescription he recently had seen from an eminent physician of his city) to put, say, eight different kinds of medicine into one mixture. On what theory was this done? We should be able to determine what a remedy would do. But how could we tell what the action of six, eight, or fifteen different articles in one prescription would be? *Veratrum viride*, for the general circulation, would, in nine cases out of ten, supersede opium. Ipecac was good for a baby three days old, or for a man thirty years of age. It produced emesis in either instance. Bleeding, too, was an old remedy that we were in danger of forgetting.

Dr. F. E. Waxham thought we should observe the rule not to prescribe a remedy unless we had a reason for it.

Dr. Cook, of Beecher, stated that we had more faith in remedies now than we had five years ago. As a general thing, he prescribed but one remedy at a time instead of combining a number in one prescription.

The report was further discussed by Dr. Wetmore, of Waterloo.

The Report on Ophthalmology was read by Dr. W. T. Montgomery, of Chicago. Jequirity and hydrochlorate of cocaine were alluded to. The author gave his experience in the use of the former remedy on about two hundred and fifty different eyes. He used a fresh infusion of the bean, of the strength of from about one fourth of one per cent. up to five per cent. It was immaterial which was used if it was done properly, at intervals of twenty-four hours, to set up an inflammation in a membranous exudate. The acme was usually reached at the end of the second day. About ten per cent. of his patients had been cured after the first application; about twenty-five per cent. after the second; about thirty per cent. after from three to fifteen applications; about twenty per cent. were improved; and about fifteen per cent. were not benefited. Where the infusion was applied twice they recovered in from one to three weeks. There was no sloughing of the cornea. In three cases of this number dacryo-cystitis had occurred. The remedy, if used especially in hard granulations with pannus, was almost a specific. He therefore regarded it as one of the most important of remedies. Regarding the use of hydrochlorate of cocaine, and its local anæsthetic properties, he recited his own personal experiences with it, which had been extensive.

Von Graefe's operation of evisceration of the bulb in place of enucleation was next discussed, and the following advantages were set forth: 1. That there was no wounding of the cellular tissue of the orbit. 2. That the stump was superior. Both he and Dr. Holmes, of Chicago, had performed this operation for years, the latter gentleman having first performed it in 1876. In panophthalmitis it was preferable to enucleation.

Two cases of chancre of the eyelid were then reported, one of which occurred to a lady who had got some red pepper in her eye, and whose servant girl inoculated the lady in removing the pepper with her tongue.

Dr. S. J. Jones, of Chicago, thought there was much risk in using jequirity to get rid of an opacity. If other remedial measures were properly used there was no risk. We were using jequirity empirically, and we should not subject patients to such severe risks. He urged caution in using it. Regarding hydrochlorate of cocaine, fortunately it was a safe remedy, but now it is disappointing us. Why? Because it had been used indiscriminately for so many different things that it would not retain or get the credit for what it had already done. It was very valuable to produce superficial anæsthesia, but usually it only diminished the suffering instead of wholly obliterating acute pain. When it was injected hypodermically, depression followed. Whether this was due to the use of the remedy, or was a result of the anticipation of an operation, he would not attempt to state.

The subject was further discussed by Dr. Mendenhall, of Georgetown, Dr. J. D. Skeer, of Chicago, Dr. C. Truesdale, of Rock Island, and Dr. Guthrie.

Wednesday's Proceedings.

The President, Dr. D. S. Booth, in the Chair.

Remarks by Invited Guests.—Dr. Middlekamp, Dr. Prewitt, and Dr. Dickinson, of St. Louis, having been invited the evening before to take part in the proceedings, they each made remarks indicative of the interest felt in the society by the profession in Missouri, and, in particular, of the satisfaction it would give them to have the Illinois medical-practice act faithfully carried out, and the State's excellent board of health thoroughly sustained by the profession.

Dr. N. S. Davis, of Chicago, responded. Members of the profession in the various States should feel cordial toward those in all the other States. Members of a State society should be members of a local organization also. They should be supporters of a local society before becoming members of the State society. There were great advantages in this. Experience had demonstrated that every one who was a member of both and moved in the direction of each was more favorably looked upon, whereas, if he ignored the local organization at home, there must be a cause for it. The regulations of the State and National associations in prohibiting men from joining who were not identified with a local society had worked favorably. We needed more conference, union, and fraternity. We were often stigmatized for not having a fixed rule or statute law like the lawyers. The science of medicine was the science of all sciences. So long as human knowledge existed and grew, science would advance. We should advance mutually and feed each other. This, then, was the basis of the neighborhood organization. It was there that we should frequently meet, and it should be the only channel by which we were enabled to reach the State and National associations. He hoped that we should work together to attain this object. By doing so we should become more powerful, and by and by the entire profession would be embraced in city, county, State, and National organizations.

Dr. Prewitt agreed with the previous speaker. A man should be a member of a local society first. The American Medical Association and the State societies should continue to require it of every member.

On behalf of the Illinois State Board of Health, Dr. John H. Rauch, the efficient secretary, stated that, in regard to the legislation that was now pending, he desired the hearty co-operation of the profession while the Legislature was in session; he referred to a bill that had now reached its third reading. He spoke eloquently upon all the points involved in the bill. He thought it the duty of every physician to make his statistical returns faithfully, and not ask for legislation to pay him fifteen or twenty-five cents for every case thus reported. He urged the members to think of the importance of having this bill passed. He also urged that something more should be done relative to the Medical-practice act, as some of the certificates that had been issued to physicians had cost the State fifteen dollars—yes, twenty dollars. The fee of one dollar, therefore, was not enough for a certificate when a man, as was often the case, got it as a cloak, so to speak, and then immediately removed from the State. And the same might be said of "Certificates of Examination." In a few instances, not to exceed three altogether, the board had charged, or rather had accepted, five dollars for each case. It had cost the State, however, five hundred dollars to get this fifteen dollars in return. Another point that Dr. Rauch alluded to was that of students' practicing under a preceptor. The law stated that they might prescribe while studying under a preceptor, but could not practice! The subject of a hundred-dollar license fee permitting itinerants to practice was also thoroughly dealt with. In a few instances the fee had been accepted, and eight hundred dollars altogether had been accepted during the board's existence. However, there were scarcely any itinerants in the State.

Dr. Rauch then presented the plan of a State sanitary survey and house-to-house inspection. In referring to this last topic, he read an extract from an editorial in the London "Lancet" alluding to and commending the project. He closed by referring to the bill that was before the Legislature regarding that class of specialists who advertised, and whom the board felt it incumbent on them to prosecute. Personally, he would rather encounter cholera than prosecute a man for irregular and unprofessional practice or methods—quackery—and the board had most trouble with those who were regular graduates, for the regular graduate said he was so-and-so, was duly authorized to practice medicine, had a diploma from a well-known college, etc.

An Anatomy Bill.—Dr. A. B. Strong, of Chicago, presented a matter that needed further legislation, namely, that of the anatomy bill, which was also pending in the Legislature. He thought the bill needed amending, so that it should be made mandatory for boards of county commissioners, or those having charge of dead paupers, to supply medical colleges with sufficient dissecting material when such demand was made. He had received during the past year five thousand letters from three thousand physicians throughout the State, and out of that number but two medical men had opposed it. Then he spoke of having a statute framed, so that, when medical men were sued for malpractice, the patient should be made to deposit funds sufficient, in case the physician gained the suit, to remunerate him for loss of time and all expenses. He also alluded to the able services that had already been performed by the Illinois State Board of Health, and added that it met with the hearty approbation of every intelligent physician. The additional legislation that had been alluded to would be for the best interest of the State of Illinois.

Dr. D. A. Sheffield, of Apple River, a member of the Legislature from the Twelfth District, spoke in behalf of a bill that he had introduced in February, which had reached the third reading in both the House and the Senate, and had finally been reported back with the clause giving the act immediate effect stricken out.

Dr. J. L. White, of Bloomington, spoke at length on the subject of State legislation. He thought that if the bills had reached a third reading in the House and Senate they would be passed, and that there was only a little hesitancy in regard to action by the members before doing so. He furthermore thought it was our duty to request each member to vote for these bills.

Dr. W. M. Hanna, of Lisbon, also a member of the House, stated that he would do his best to get the last bill passed.

Dr. Samuel Mileham, of Camp Point, a member of the Senate, thought there would be no difficulty in passing the anatomy bill. He pledged himself to do his utmost in this direction.

Dr. W. H. Weir, of Colchester, a member of the House, was heartily in favor of the bill, and thought there was not much opposition to it.

Legislation concerning the Insane.—Dr. E. P. Cook, of Mendota, spoke of the legislation that was needed in regard to the commitment and care of the insane, he being a member of the standing committee on that subject. He referred to the Campbell bill, which had reached the third reading in the Senate, and, as it had given us all so much pleasure to hear the expressions of unanimity of thought from the various members that had spoken in behalf of the anatomy bill, he trusted they would be in favor of the bill to which he alluded.

Dr. Walter Hay, of Chicago, stated that three years ago, when the society met at Quincy, he was appointed on the Committee on Legislation for the Insane. The chairman, Dr. B. M. Griffith, reported two years ago, and last year, the progress the committee had made. But at the recent meeting of the State Board of Charities, held in Chicago last fall, he confessed that a committee was appointed from that body, and it had prepared a superior bill for measures of reform in this direction, which had been introduced by Mr. Campbell of the Senate. It was called the Campbell bill, and we should unite in our efforts in its support.

Dr. J. M. Fowler, a member from the Fifty-first District, spoke of the legislation that had been done in the House, upheld the secretary of the State Board of Health to the fullest extent, and would do the best he could in the direction of helping to pass the Campbell bill.

The Report of the Committee on Necrology was then read by Dr. M. F. Bassett, of Quincy, who reported that one death had occurred since the last annual meeting. The late Dr. Abner Hard, of Aurora, had died in the line of duty March 20, 1885, from the effects of blood-poisoning.

Recurrent Laryngitis was the subject of a paper read by Dr. E. F. Ingals, of Chicago. He stated that the affection was usually associated with chronic pharyngitis of the follicular variety, and in a large majority of cases with obstruction of the nares, which latter stood in a causative relation to both the laryngeal and the pharyngeal disease. The greater frequency of the disease among men than among women was attributed to greater exposure to the weather and the use of tobacco or alcoholic stimulants. Most patients had no well-defined idea of the cause of the trouble, but nearly all would be found to have suffered from what they termed "catarrh" for two or three years before the larynx had become involved. In a limited number, however, the laryngeal affection was not associated with inflammation of other parts, and seemed to be due to an hereditary or acquired predisposition to inflammations of the mucous membranes. Though recognizing the causes usually described as operating to produce recurrent inflammations in the larynx, he believed that in the great majority of cases obstructions of the nares were directly responsible, and, among the various conditions interfering with free nasal respiration, deflection and thickening of the septum, swelling and hypertrophy of the turbinated bodies, or all three together, constituted the cause in nearly all cases. The obstruction caused rarefaction of the air in the naso-pharynx; this led to congestion, which ended in inflammation of the part, and that was aided by the pernicious effects of buccal respiration. One of the principal symptoms that almost invariably was associated with a case was inability to breathe through the nose, and usually this symptom had been present for years. The diagnosis was certain, and the tendency was for the patient to grow worse. It resulted in persistent chronic inflammation. The singing voice was likely to be ruined. Atrophy of the nasal tissues and chambers would be apt to follow. This occasionally preceded consumption, yet it was not causative of it, but was a direct cause of chronic laryngitis. But a very small number of lives were shortened by it. The treatment of cases due to the cause first mentioned was by local applications of stimulants and astringents and the use of constitutional remedies. For those due to obstruction, surgical interference was deemed necessary in most cases, although the application of hydrochlorate of cocaine frequently might greatly diminish the swelling and give temporary relief, and perhaps answer a sufficient purpose in mild cases. His conclusions were: 1. The affection was usually dependent upon nasal obstruction. 2. The obstruction in the majority of cases was due to deflection and thickening of the septum, or hypertrophic catarrh. 3. To effect a permanent cure, local remedies were unreliable and the obstructing tissues must be removed. 4. Operative procedures for removal of these obstructions might be made painless by the use of hydrochlorate of cocaine. 5. This method of treatment, properly carried out, might be relied on to cure the catarrh and the laryngitis of which it was the cause. 6. Great improvement in the general health often immediately followed the removal of the nasal obstructions. 7. In acute colds or exacerbations of hypertrophic catarrh, immediate relief might be obtained by insufflations, as often as needed, of small quantities of cocaine.

(*To be continued.*)

NEW YORK SURGICAL SOCIETY.

Meeting of May 26, 1885.

The Vice-President, Dr. Charles McBurney, in the Chair.

Primary Excision of the Wrist Joint.—The Vice-President presented a patient who had received an unusual injury three months before, his hand having been caught between the couplings of an engine and a car, and all the bones of the carpus, except the scaphoid and the pisiform, crushed. The metacarpal bones, and also the radius and ulna, entirely escaped injury. A large wound was produced along the inner side of the hand, lifting up about six inches of the skin, but the tendons were not torn. The comminution was so great as to require removal of all the bones of the carpus except the scaphoid and the pisiform. The operation was performed under bichloride irrigation, and a firm, permanent antiseptic dressing applied with iodoform gauze and plaster of Paris, which was kept in place eighteen days, after which the dressing was changed occasionally. There was no rise of temperature at any time during the progress of the case. The man now had some power of motion at the wrist in every direction, even some lateral motion, and the motion of the fingers was steadily increasing. The result was very much more satisfactory than Dr. McBurney had expected. He did not know of a case where the bones of the wrist had been so entirely crushed without injury to adjacent bones.

Persistent Priapism.—Dr. L. A. Stimson presented a man, forty-eight years of age, who had come under his care about a week before, having a good family history, but a doubtful history of syphilis, and who had been married twenty-five years. The first thing the patient noticed was that, recently after having sexual intercourse, his erection was slow to subside, and nearly three months ago, without previous trouble, except rheumatic pains simulating sciatica, he noticed upon the glans penis two slightly raised, deep-colored spots, one on either side, and this was immediately followed by priapism which had continued until the present time. The penis had remained as it was now, without change in size or color. It was first treated by elastic pressure, which resulted in slight superficial sloughing of the glans. The organ measured six inches in circumference, six inches in length upon the dorsal surface, and ten inches and a half from the bulb to the glans. The bulb shared in the erection, as did also the crura, although the right crus was somewhat less involved than the left. There was a slight dorsal incurvation, also a slight concavity toward the right. The only noticeable feature in the general appearance of the patient was a peculiar livid color of the lips, and there was exaggeration of his reflexes, most marked upon the right side. There were no symptoms of locomotor ataxia. The blood had been examined and showed no excess of the white blood-corpuscles, although there was a distinct enlargement of the spleen and liver, and also some consolidation at the apex of the right lung and some pleuritic friction sounds upon the left side of the chest. There was but slight sexual appetite. The patient's principal suffering was from an aching pain in the perinæum. The stream of urine was small, but there was no pain on micturition.

Dr. T. M. Markoe referred to a case of priapism occurring in a patient in whom there were symptoms of leucocythæmia. The peculiarity of the case, however, was in the fact that the erections seemed to be confined to the corpora cavernosa. The glans penis was almost entirely flaccid, as well as the entire corpus spongiosum.

Dr. A. C. Post had had under his care a man somewhat older than Dr. Stimson's patient, who had priapism equal to this, which had continued for about three months. Otherwise he was apparently a healthy man.

The Vice-President thought that the suddenness with which the condition developed would seem to dispose of the idea of pressure on blood-vessels as the cause, unless it was from extravasation of blood, and it would also seem to forbid the supposition of leucocythæmia as a cause. The history of the case would lead one to think of some neurosis, perhaps some disturbance of the sympathetic system.

Dr. Stimson regarded the case as of central origin.

Injuries of the Blood-vessels in the Reduction of Dislocations of the Shoulder.—Dr. Stimson then read a paper with this title. [See page 658.] In connection with his paper, he presented a specimen removed post mortem from the patient whose case Dr. Sands had reported to the society in December, 1879, a woman eighty-six years old with a dislocation of the shoulder of seven weeks' standing. Ether was given. Slight movements were made to break up adhesions, and then gentle traction upward and outward was employed. Immediately a swelling appeared in the axilla, the radial pulse ceased on the affected side, and the patient was extremely prostrated, death by syncope appearing to be imminent. The condition was relieved by hypodermics of brandy, and the arm bandaged to the side. For several days the patient remained in a critical condition, attacks of syncope occurring every night, but she gradually recovered. She died in May, 1885, five years and a half after the accident. The specimen consisted of the upper part of the humerus, the adjoining portions of the scapula and clavicle, the artery, and some of the nerves. The head of the humerus had torn through the subscapularis muscle and lay below and to the inner side of the coracoid process. It was slightly rotated outward; the greater tuberosity had been torn off and occupied the glenoid cavity, but had united with the humerus again. The subscapularis lay between the humerus and the head of the scapula, and was firmly united to both. The artery and median nerve lay at the inner border of the anterior aspect of the head of the humerus, and were adherent to it. The artery was most firmly fixed at the lower part of the head, and there presented a marked narrowing and a change in direction of about 30°, the angle being open externally. The posterior circumflex artery, very much larger than usual, was given off a quarter of an inch below this narrow point. When the specimen was fresh, liquid injected into the upper end of the artery had flowed freely from its lower end; but, on cutting it open longitudinally on each side of the constriction, it had been impossible to detect a channel through the latter, and it was probable that the liquid had made its way through collateral branches, returning to the main artery through the dilated circumflex. The subscapular artery could not be found. The artery for an inch and a half above the occluded point was occupied by a decolorized clot adherent to its posterior wall and terminating above just below the origin of the acromio-thoracic. The artery was not atheromatous. The injury appeared to have been either a rupture of part of the wall of the artery, or possibly an avulsion of the subscapular branch; and the arrest of the hæmorrhage had probably been aided by the pressure of the head of the humerus upon the vessels and by the syncope.

Dr. Post said these cases formed an extremely small proportion of the cases of old dislocation which had been reduced, and he would like to ask whether the danger of rupturing an artery was sufficient to deter one from undertaking to reduce such dislocations. He had had a number of cases of this character, and had succeeded in several instances in reducing the dislocation at the end of five or six months without doing injury, although he had not resorted to a very great amount of force or violent movement. It had seemed to him to be legitimate to resort to surgical manipulations for the purpose of reducing the dislocation, and he would like to know if he had been wrong in that view.

The Vice-President thought that when dislocation occurred in a moderately young individual, when the parts had not been manipulated very much, and when the history showed that the first injury had not been followed by very much swelling or inflammatory action, an attempt at reduction might be proper, even a considerable time after the occurrence of the injury. But where other conditions were present, and the case occurred in an old person, the results were not very satisfactory, even when the dislocation was reduced, and it might be questionable whether the effort should be made; at least such cases called for caution. So far as statistics went, Dr. Stimson's collection had not purported to include a number of other accidents, such as fracture of the humerus, which occurred rather frequently.

Dr. Stimson said he had not directed attention to other accidents, although he had known of three cases of fracture of the humerus occurring in one surgical service within six months as a result of efforts to reduce old dislocations.

Dr. R. J. Hall asked if it would not be a more scientific procedure to cut down and liberate the head of the bone.

Dr. Stimson remarked that this had been done with success.

Epithelioma of the Rectum.—Dr. Post presented a specimen of epithelioma of the rectum which he had removed that afternoon at St. Luke's Hospital from a man fifty-three years of age, of good general health and constitution, who had been subject to hæmorrhages from the rectum during the preceding two years, with more or less pain, but the disease had not advanced so far as to cause symptoms of obstruction. When Dr. Post first saw the patient he found that there was a morbid growth within the rectum not connected with the sphincter, being at least 3 or 4 ctm. from it. He was able to pass his finger above the diseased part, and, on drawing upon it, the mass seemed to move freely upon the surrounding parts. He determined to excise the tumor and make an effort to save the sphincter, which he succeeded in doing. He began by making an incision through the posterior part of the anus down to the coccyx, laying open the posterior part of the rectum, and then making an incision, each side at a distance of 2 or 3 ctm. from the anus. The lateral incisions were extended backward and curved inward so as to meet the median posterior incision. These lateral incisions throughout their whole extent were outside the rectum and did not involve its coats. As he approached the wall of the rectum he made the dissection with a blunt instrument and with the fingers, using the knife and scissors as little as possible. He succeeded in reaching as high as the upper extremity of the tumor, and then divided it into two lateral portions, opening it before and behind and cutting through the walls of the rectum above and below it. It was somewhat difficult at certain points to make these incisions, but he succeeded finally after a protracted dissection. There was only a moderate amount of hæmorrhage, and no oozing of blood at the close of the operation. He applied to the surface a solution of chloride of zinc, forty grains to the ounce, irrigated the wound with mercuric-bichloride solution, 1 to 1,000, drew the parts down and connected the mucous membrane above the excised part to the parts below, and made a continuous canal on all sides. He then dusted the parts with iodoform, introduced a tent of iodoform gauze into the rectum, applied iodoform gauze over the surface with absorbent cotton, and applied a T-bandage. The case was an unusually favorable one for operation because of the facts that the sphincter was not involved, and the disease was almost entirely confined to the mucous membrane and the parts immediately adjacent to it.

Dr. George A. Peters said that the case seemed to him to be a very favorable one for operation from the fact that Dr. Post had been able to get good coaptation throughout the entire circumference of the bowel.

New Inventions, etc.

ARTIFICIAL EPISTAXIS.

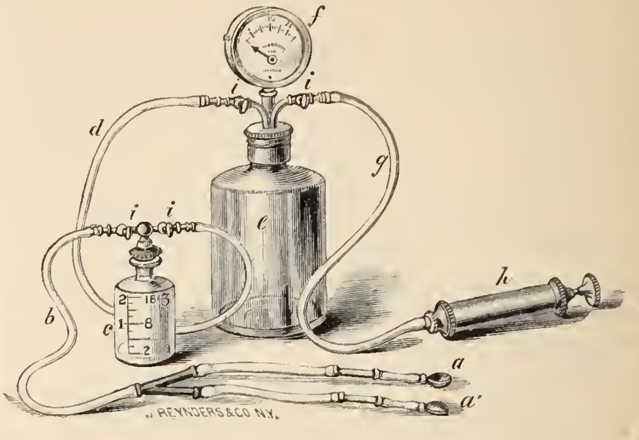
By J. Leonard Corning, M. D.

It has long been the practice among certain practitioners to resort to local bloodletting about the head and posterior aspect of the neck, with the object of exerting a derivative effect upon the intra-cranial blood. Medical literature abounds in histories which are supposed to illustrate the efficacy of such procedures. Where the amount of blood withdrawn has been large, an undoubted intra-cranial depletion has been produced, chiefly referable to the abstraction from the quantity of the blood as a whole, and not to the local effects of the operation. When, however, the amount of blood withdrawn from the circulation is small, it is questionable whether the local effect upon the circulation of the brain is at all appreciable. This lack of effectiveness is in great measure due to the fact that, in abstracting from the head and neck, the circulation in the external carotid is chiefly affected.

In contra-distinction to the unsatisfactory results obtainable from local bloodletting, as above described, are the excellent therapeutic effects which sometimes result from an ordinary "nose-bleed." Literature contains many instances of headaches spontaneously relieved, epileptic attacks aborted, and the complexus of symptoms resulting from cerebral congestion exercised by a spontaneous hæmorrhage from the nasal cavity. To what is this benignant influence of an ordinary epistaxis attributable? The answer, I believe, is not far to seek, the whole question being readily understood when we remember that the anterior ethmoidal artery is a branch of the ophthalmic, which latter artery in turn derives its blood from the internal carotid. When, therefore, epistaxis takes place, the terminal branches of the ethmoidal artery, which are distributed about the anterior portion of the septum and nasal cavity, are liable to rupture; or, if the immediate branches of the artery itself are not injured, then are some of its anastomotic communications sure to be broken. In either case the result is the same—an ultimate abstraction of blood from the cerebral circulation, by way of the ethmoidal, the ophthalmic, and the internal carotid.

Guided by the theoretical and practical considerations referred to, I have inferred that it would be a matter of some practical value if an apparatus could be devised by means of which it would be possible to abstract blood from the mucous membrane on each side of the septum —a territory corresponding to the distribution of the anterior ethmoidal artery. The apparatus depicted below is the outgrowth of those reflections. It consists, in the first place, of the jar (*e*), which is connected with the air-pump (*h*), by means of which it is possible to cause a vacuum in the vessel (*e*). The gauge (*f*) registers the degree of approach to a vacuum. An India-rubber tube connects the jar with the small bottle (*c*), which is provided with a scale. A bifurcated tube (*b*) connects the bottle with the two small cupping bowls (*a a'*); the latter are sufficiently minute to admit of their introduction into each nostril respectively. As they are provided with India-rubber garnitures, it is possible to adapt them accurately to the sides of the septum.

The mode of employment is simple enough. The cupping bowls having been introduced, a small scalpel is inserted in turn beneath the edge of each, by means of which the mucous membrane of the septum is slightly scarified. The cupping bowls are then connected with the vacuum jar and with the bottle by opening the appropriate stop-cocks. These valves (*i*, *i*, *i*, *i*) require no explanation, as their function is self-evident from the situation which they occupy. Short segments of glass tubing, inserted in the India-rubber pipes below the cupping bowls, enable the operator to observe whether the blood is flowing properly, or whether further scarification is necessary. As the blood flows into the graduated bottle already described, it is possible to determine with accuracy the amount removed.



The advantages of such an apparatus over ordinary leeches are great; it is only necessary to refer to the danger arising from the possible migration of the latter into the upper, inaccessible recesses of the nasal cavity to make this point clear.

An instrument of this kind might, perchance, find a further application in gynæcology and other branches of surgery, for the purpose of abstracting blood from the vagina, the rectum, and other cavities. As for myself, I have never had occasion to employ the device otherwise than in the exigencies arising in neurological practice.

Finally, it may be well to note that the previous application of cocaine to the membrane of the septum, by means of the spray or tampon, renders the little operation of scarification practically painless. In the case of a gentleman from whom I recently abstracted an ounce and a half of blood with the mechanical leech above described, I was able to prevent the slightest unpleasant sensation by the use of a four-per-cent. solution of the hydrochlorate of cocaine.

26 West Forty-seventh Street, *May 15, 1885.*

Miscellany.

The Constitutional Treatment of Caries and Necrosis.—This is the title of an interesting paper lately published in pamphlet form by Dr. Hal C. Wyman, of Detroit, professor of physiology and histology in the Michigan College of Medicine. "The surgical aspects of these distinct maladies," says Dr. Wyman, "have been the subject of discussion by surgical writers from the earliest times. Good surgical treatment implies constitutional treatment as well as operative methods. My purpose in submitting this paper is not so much to show any particular method of operative interference as to indicate the great value of judiciously selected constitutional treatment in repairing these particular diseases.

"A glance at the minute anatomy of bone and a consideration of the conditions under which the repair of damage takes place show that bone, like the softer tissues of the body, requires good food and pure air, essential factors in the production of good blood, for its normal sustenance. The relation of the digestive process to the maintenance of vigorous and nutritious bodily fluids is apparent to those most inexperienced in the management of disease. Any derangement or impairment of the digestive process, or ferments, produces a consequent impairment of blood supply delivered to the bones. The days and nights of pain incident to the usual course of caries or necrosis disorganizes the digestive functions. The shock and fear, and chloroform narcosis incident to the operative procedures, frequently necessitated by these diseases, also undermine the digestive functions.

"Children are the most frequent sufferers by these diseases. The impaired digestive functions in children yield more readily to properly selected treatment than is the case with adults. The conversion of starch into sugar by the digestive ferments is more frequently impaired in children suffering from caries and necrosis than is the conversion of albuminoids into assimilable substances. The use of artificial diastase is, therefore, indicated on the best of physiological grounds. Hip-joint disease, caries of the spine, chronic inflammation of the knee, and caries of the long bones are for some reason constantly accompanied by malassimilation and indigestion of the starches. When such cases proceed to a good, sound recovery it is through a thorough restoration of this particular digestive power, or a compensatory increase of the digestive power for hydro-carbons. In no case of hip-joint disease, were the operative methods ever so carefully or skillfully performed, has there been a repair of lesions until the digestive ferments have handled the starches perfectly. The same fact applies to the other varieties of bone diseases above mentioned.

"My experience in the treatment of hip-joint and spinal cases, necrosis and caries of the various bones, embraces large numbers of cases, probably because my professional brethren have lacked the patience and perseverance and rigid attention to the digestive power essential to the cure of these long-time maladies. The Trommer extract of malt has been of great service in enabling me to bring numbers of these cases to a happy termination, and in a space of time of shorter duration than is accomplished by the use of cod-liver oil or hypophosphites."

The author cites the following cases:

1. W. S., aged eight years, of Lenawee County, Mich., had double hip-joint disease, with sinuses in the right gluteal fold, over the right trochanter, and near the base of the left Scarpa's triangle, on the inner aspect of the left thigh. He could drink milk, but ate no bread nor potatoes. He was ordered a teaspoonful of Trommer's extract of malt every three hours, and was put on a diet of corn-meal, bread, potatoes, milk, and eggs. The sinuses were laid open, drainage was effected by maintaining free openings with oakum tents, and plaster of Paris was applied to the thighs and pelvis to limit the mobility of the hip joints. The sinuses closed at the end of five months, and there was ankylosis of the left hip, with limited motion of the right one. The child came under treatment in May, 1877, and has had no return of the disease to date.

2. Miss F., aged sixteen, consulted the author on account of a constant dull, uneasy feeling in the epigastric region, accompanied by emaciation, pallor, and poor appetite. Her movements were awkward; she had pain in riding, and could walk easier than she could sit. Examination of the spine revealed a small fluctuating tumor about two inches to the left of the spinous processes, between the eighth and ninth ribs. Caries of the dorsal vertebræ was diagnosticated. She was put upon the use of extract of malt—a tablespoonful every four hours. The abscess was opened, a double drainage-tube was inserted to the depth of four inches, and the abscess cavity was washed out daily with a one-per-cent. solution of carbolic acid. There was a profuse discharge of pus for two weeks. A plaster-of-Paris jacket was applied. The discharge of pus was succeeded by that of a thin, serous fluid; the pain disappeared from the epigastrium, and she progressed favorably for two months. She then passed into the hands of another practitioner, the plaster of Paris was removed, the drainage-tube was withdrawn, the sinus closed, and so-called blood medicines were administered. The pain returned in a fortnight, the sinus reopened, and angular curvature developed suddenly. She then came into Dr. Wyman's hands again, with a marked angular curvature, the abdomen distended (the lower part being compressed and the upper portion narrowed), severe epigastric pains, and a white and pasty tongue. She was sleepless and feverish. He applied the plaster of Paris again; enlarged the sinus and introduced a drainage-tube; washed out the cavities as before; and administered Trommer's extract of malt, in tablespoonful doses every four hours, for a year and a half. The drainage-tube came away spontaneously, and the sinus healed. The plaster was applied four times. At the date of the report there had been no return. She had married, and was the mother of one child.

3. J. R., aged thirteen years, of Monroe County, Mich., a large, raw-boned boy, had been sick four months. The left thigh was flexed upon the abdomen; the toes were inverted; there was fluctuation in the obliterated left gluteal fold, with pain in the knee, sleeplessness, and loss of appetite. The temperature was 101°. The abscess was opened and a drainage-tube inserted. Plaster of Paris was applied to the leg, thigh, and pelvis; the leg and thigh were extended under chloroform, and one inch was added to the thickness of the right sole. He used a crutch. He took extract of malt in tablespoonful doses every four hours, and, six months after coming under treatment, the sinus had closed and the injury had been repaired by ankylosis.

4. W. R., aged fourteen, of Fulton County, Ohio, of German parentage, had been a robust farmer's lad until he was attacked, two months before the author saw him, with phlegmonous erysipelas of the right leg and the left thigh and knee. A sinus had opened on the outer aspect of the right leg and behind the external malleolus. A probe, passed along the whole length of the right fibula, gave the rough feeling indicative of necrosis; the left thigh and knee joint were swollen; there was fluctuation in the left ham, and he had hectic. The left leg was laid open by an incision along the course of the fibula, and the whole of that bone was removed from the malleolus upward. The abscess in the left ham was opened by free incision, and treated by drainage by means of a tent. The left knee, leg, and thigh were incased in plaster to immobilize the knee. He took Trommer's extract of malt, a tablespoonful every three hours. The wound in the right leg healed promptly; the fever disappeared; the abscess in the left thigh healed; and the knee joint healed by ankylosis in two months after the treatment was begun.

5. A German boy, aged nine years, from Lenawee County, Mich., of good general health, was lost in the woods over-night, while searching for cattle. There was a fall of snow the same night; the boy's boots were ragged and his feet suffered terribly from frost. He came under treatment three weeks after the exposure, having been sick ever since. He had fever and chills; a sinus had opened about the left heel; the foot and ankle were swollen and œdematous, and a probe showed the os calcis carious and necrosed. An incision was made across the heel, below the insertion of the tendo Achillis; the os calcis was removed with a forceps, and the wound was washed daily with a weak carbolic-acid solution. He took a teaspoonful of extract of malt every three hours. He was cured in four months, but the foot was not of much use.

"These cases occurred so long ago," says Dr. Wyman, "that plenty of time has elapsed for a return of the disease if the cures had not been perfect. They are sufficient to show the value of the treatment employed. Other cases have occurred since and the patients have recovered. Many other patients are still under treatment and will recover. I attribute the good results in the cases mentioned fully as much to the artificial digestion of starchy foods craved by these patients as to the operative methods employed, and believe that in many instances the cases would have progressed to the same happy ending had the rigid attention to the diet only been employed, but more time would have been necessary."

The American Neurological Association will hold its eleventh annual meeting in New York, at the hall of the Academy of Medicine, on Wednesday, Thursday, and Friday, the 17th, 18th, and 19th inst. The programme includes the following papers: "The Relation between the Symptoms and the Lesions of Posterior Spinal Sclerosis," by Dr. E. C. Spitzka, of New York; "A Case of Acute Ascending Paralysis (Landry's Disease)," by Dr. J. T. Eskridge, of Philadelphia; "A Case of Chronic Myelitis—Recovery," by Dr. A. D. Rockwell, of New York; "On the Use of Osmic Acid in Peripheral Neuralgias," by Dr. G. W. Jacoby, of New York; "Clinical Observations on Spinal Irritation," by Dr. Spitzka; "Paronymy versus Heteronymy as Neuronymic Principles," by Dr. B. G. Wilder, of Ithaca, N. Y. (the President's Address); "The Brain of a Delusional Monomaniac who killed several persons," by Dr. C. K. Mills, of Philadelphia; "On a seldom-described Artery (A. Termatica), with Suggestions as to the Names of the Principal Encephalic Arteries," by Dr. Wilder; "Exhibition of Preparations illustrating (a) the Form and Extent of the Adult Aula; (b) the Non-extension of the Rima to the Tip of the Medicornu; (c) the Enlargement, yet Complete Circumscription, of the Porta in an Alinjected Hydrencephal; (d) the Fimbrial Revert and its Relation to the Prosoplex; (e) the Continuity of the Diacœlian Endyma from the Mesal Surface of the Thalamus over the Habena to the Diatcle; (f) the Insula in a Dog, a Monkey, a Chimpanzee, and a Porpoise," by Dr. Wilder; "Demonstration of a Brain Monstrosity," by Dr. Spitzka; "On Two little-known Cerebral Fissures, with Suggestions as to Fissural and Gyral Names," by Dr. Wilder; "Two Cases of Friedreich's Disease," by Dr. Wharton Sinkler, of Philadelphia; "The Anatomy and Physiology of the Tracts comprised under the name Lemniscus or Fillet" and "The Anatomy of the Trineural Fasciculus," by Dr. Spitzka; "Preliminary Report of the Committee on Encephalic Nomenclature," by Dr. Wilder; and "A Contribution to the Pathology of the Cerebellum," by Dr. E. C. Seguin, of New York.

The New York County Medical Association.—A stated meeting of this association will be held at the Carnegie Laboratory, Nos. 338 and 340 East Twenty-sixth Street, on Monday evening, the 15th inst., at 8 o'clock. The order of business is as follows: 8 P. M., "A Few Practical Remarks on Rupture of the Perinæum," by Frank H. Hamilton, M. D., LL. D.; 8.30, a paper on "Persistent Flatness over the Liver as a Proof that Acute Diffuse Peritonitis is not associated with Intestinal or Gastric Perforation," by Austin Flint, M. D., LL. D.; 8.45, "Intussusception of the Intestines, with the Report of a Case," by Charles S. Wood, M. D.; 9.10, a paper on "A Method of Direct Local Treatment for Diseases in the Region of the Ileo-cæcal Valve, and also for the Safe Removal of Impactions of the Intestines," by Charles A. Leale, M. D.; 9.20, Presentation of Specimens; Discussion of the Papers in their order.

The Health of Michigan.—By a summary kindly furnished by Dr. Henry B. Baker, the secretary of the State board of health, we learn that during the month of May diphtheria was reported from Alamo, Allegan, Armada, Avon, Bancroft, Brighton, Calumet, Cold Spring, Columbiaville, Concord, Detroit, Flint, Grand Rapids, Howard City, Kalamazoo, Lakeview, Lansing, Linden, Manton, Mead's Mills, Monroe, Paw Paw, Port Hope, Port Huron, Sand Lake, South Haven township, Wayne, White Oak township, Winfield township, and Wyandotte; scarlet fever from Albion, Brown City, Burr Oak, Detroit, Dover, Grand Rapids, Houghton, Ithaca, Kalamazoo, Kalamazoo township, Lansing, Linden, Lowell, Marcellus, Marshall, Mancelona, Milford, Monroe, Northville, Paw Paw, Petersburg, Pierson township, Shepardsville, South Haven, Tekonsha, and Wyandotte; measles from Au Sable, Benton Harbor, Cass City, Detroit, Flint, Grand Haven, Grand Rapids, Harbor Springs, Hastings, Lansing, Lisbon, McBride, Morenci, Niles, Northville, Pentwater, Pierson, Paw Paw, Port Huron, Wyandotte, and Ypsilanti; and small-pox from Alba, Battle Creek, and South Haven.

The New York Post-Graduate Medical School and Hospital.—We learn that Dr. Edward L. Partridge has resigned from the faculty.

The Influence of the Salines in the Blood upon the Cardiac Contractions.—Dr. Sidney Ringer contributes a paper on this subject to a recent number of the "British Medical Journal." His experiments were made with the frog's heart, different fluids being allowed to flow through the ventricles. A current of pure water speedily threw the cardiac muscle into a condition of rigor. A solution of common salt did not restore the normal contractility, but lime salts did show this power. A combination of calcium, sodium, and potassium chlorides maintained normal contractions when the heart was removed from the body, but a solution of these salts has a neutral reaction, so that, according to Ringer, in order to render the fluid perfect, a small amount of sodium bicarbonate must be added to it. "The normal contraction of the ventricle," says the writer, "is the result of a mutual antagonism between calcium and sodium bicarbonates on the one hand and potassium chloride on the other." "On this physiological antagonism," he adds, "the proper contraction of the heart depends." The important practical deduction from the foregoing is, that in employing intra-venous injections the value of this combination of salts should be borne in mind.

Removal of the Thyroid Gland.—Wagner ("Ctrlbl. f. Chir.") has carried on a series of experiments with the object of determining the relation of the thyroid gland to the general nervous system. All the animals in which the entire gland was removed died, while two in which only half of it was excised recovered. Death was invariably preceded by epileptoid convulsions or tetanus. From the resemblance of these symptoms to those of uræmia, the writer thinks that possibly the thyroid may excrete or absorb some toxic element, which is retained in the blood after the removal of the gland.

THERAPEUTICAL NOTES.

Subcutaneous Injections of Cyanide of Mercury in Syphilis.—Prochorow ("Wratsch"; "Ctrlbl. f. Chir.") reports eighty cases of syphilis treated with subcutaneous injections of a one-per-cent. solution of the cyanide. The average number of injections required before the disappearance of active symptoms was twenty. Not more than twenty-five or thirty drops were injected at a time. Only two abscesses resulted from nearly twenty-seven hundred insertions.

Phenic Acid in Typhoid Fever.—Robin ("Arch. gén. de méd."; "Ctrlbl. f. klin. Med.") is decidedly opposed to the use of this drug in typhoid fever, since it increases the waste of sulphur and potassium, and thus causes a condition of "*inanition minérale.*" According to the author, thymol, resorcin, benzol, and naphthalin are equally deleterious in typhoid fever.

Antiseptic Inhalations in Pulmonary Tuberculosis. — Miquel ("Bull. gén. de thérap.") recommends the use of a spray containing the following ingredients:

Corrosive sublimate	16 grains;
Sydenham's laudanum	5 drachms;
Distilled water	2 quarts.

Le Fort (*Ibid.*) prefers this combination:

Camphor	8 ounces;
Tincture of iodine, Pitch, each	30 drachms;
Hoffmann's anodyne	1 ounce.

This should be placed in a wide-mouthed bottle, and the vapor inhaled at short intervals.

A Solution for Use in Pulmonary Gangrene.—Bucquoy (*Ibid.*) suggests the following:

Tincture of eucalyptus	30 minims;
Syrup of poppy	10 drachms;
Water	3 ounces.

The dose is not stated.

Sulphate of Quinine and Potassium Iodide incompatible.—Rabuteau ("Union pharm."; "Gazz. degli Ospit.") states that the simultaneous administration of these two drugs is fraught with unpleasant consequences, anorexia and general nervousness being often occasioned. He thinks that a chemical reaction takes place in the stomach, through the medium of the gastric juice, free iodine being the result. He states that if this occurs during menstruation the consequence may be fatal.

Sodium Ethylate in Lupus.—Startin ("Med. Press"; "Practitioner") has recently called attention to the value of this substance as a local application in lupus. Dr. B. W. Richardson had already used it with success in the treatment of nasal polypi.

A Resolvent Ointment for Chronic Inflammations of the Uterus.—Martineau ("Union méd.") employs the following rather complicated formula:

Potassium iodide	75 grains;
Extract of belladonna, Tincture of benzoin, each	30 "
Sodium hyposulphite	8 "
Oil of sweet almonds	2 drachms;
Benzoinated lard	6 "

To be applied to the cervix on tampons.

Lectures and Addresses.

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

By AMBROSE L. RANNEY, M.D., New York.

Lecture I.

(*Continued from page 629.*)

Electrical Units.—Before the construction of an electric battery and the modifications in such an apparatus necessary to produce special effects are considered, it is important that you familiarize yourselves with the various units of measurement employed in electricity, and their symbols. These are as follows:

Thing Measured.	Symbol.	Name employed for Unit.
Quantity.	Q.	*Coulumb.*
Current or Intensity.	C. or I.	*Ampère* or *Weber.*
Electro-motive Force.	E. M. F. or E.	*Volt.* (contraction of Volta).
Resistance.	R.	*Ohm.*
Capacity.	K.	*Farad.* (contraction of Faraday).
Work or Energy.	W.	*Joule.*
Power.	P.	*Watt.*

A coulumb is the quantity that passes in one second of time against one ohm of resistance under an electro-motive force of one volt. We use this term as we do "pints" or "quarts" in speaking of fluids.

An ampère is the current produced by one volt against one ohm of resistance. In medical practice, the milliampère is generally accepted as the unit of current-strength. An ampère will decompose ·00142 of a grain of water.

A volt is the electro-motive force necessary to produce a current of one ampère against an ohm of resistance. It practically equals the electro-motive force of one Daniell's cell. We speak of a battery as of so many volts just as we designate an engine as of so many horse-power.

An ohm is the resistance necessary to allow of one ampère of current under an electro-motive force of one volt. It is equivalent to a piece of telegraph-wire one hundred metres in length and of a certain definite sectional area, or a column of mercury one square millimetre in diameter and 1·05 metre in height.

A farad is the capacity of a condenser which would contain a charge of one coulumb under an electro-motive force of one volt.

A joule is the amount of electric energy absorbed when a coulumb falls one volt. It is equivalent to about $\frac{1}{4}$ of the heat required to raise one gramme of water at 0.°C one degree, or ·7373 foot-pounds.

A watt is the power developed by one ampère falling one volt. It is equivalent to $\frac{1}{726}$ of a horse-power.

The prefixes "*meg*" and "*micro*" denote million and millionth. For example, a megohm is one million ohms; and a microhm is a millionth of one ohm.

The names selected for the various units of measurement are taken from those of prominent electro-scientists (Ohm, Volta, Faraday, Ampère, and others).

Ohm's Law.—We are now prepared to consider the law of electric currents discovered by Ohm, by which the intensity of a current that will result from any combination of cells may be mathematically computed, and many other electrical problems solved. It may be thus stated:

$$\text{Intensity of Current} = \frac{\text{Electro-motive Force}}{\text{Resistance} \atop (\textit{Internal} + \textit{External})};$$

or, if expressed in symbols, $C \text{ or } I = \frac{E}{Ir + Er}$.

Now, in constructing a battery, the *object to be attained* must be first considered. A battery designed to produce heat (the *cautery battery*), for example, is not built upon the same plan as one designed for ordinary medical purposes.

Again, different cells (such as those devised by Daniell, Grove, Leclanché, Grenet, Bunsen, Smee, Hill, and others) possess special *advantages and disadvantages which have to be considered carefully* before a decision is made respecting the one which should be employed.

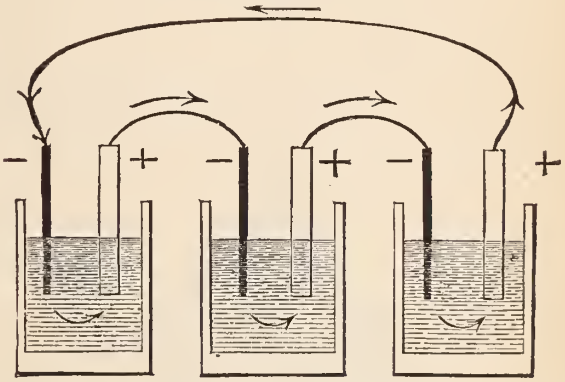


Fig. 5.—A Compound Chain (after Erb).—Three sets of elements are here connected "behind one another," or "in series." The direction of the current is shown by the arrows. The circuit of closure is effected by a wire, as in Fig. 4, *B*.

Finally, the *number of cells*, the *arrangement of the elements*, and the *size of the elements* are problems to be determined with special reference to the purpose for which the battery is designed. These points will be touched upon hereafter.

It is important that a few facts be stated in the beginning respecting the more common methods of connecting and grouping galvanic cells. Subsequently, the different forms of cells employed by well-known manufacturers of electrical apparatus may be tersely described with advantage. Finally, the various attachments to an electric battery designed for medical purposes should be mentioned, and the uses of each briefly outlined.

Let us suppose, for the purpose of illustration, that we have decided to use a certain number of cells (one of the numerous forms subsequently mentioned) in preparing a battery for medical use. How shall we connect them so as to best accomplish our purpose?

If we join the carbon and zinc elements together (using that form of cell for example), and continue to do so throughout the entire series of cells (Fig. 7), we have formed what is known as a "*compound circuit,*" or an arrangement "in series." If we join all the negative or carbon elements together, and then the positive or zinc elements in a similar way, we have what is known as a "*simple circuit*" (Fig. 8). Finally, we may *divide the cells into groups ;* then join those of each group in simple circuit ; and afterward unite these groups as if they were single cells.

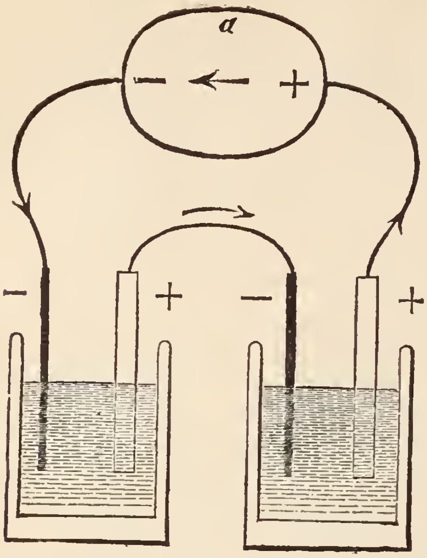


Fig. 6.—A Schematic Representation of the Introduction of a Human Body (*a*) into the Circuit of Closure of a Galvanic Chain (after Erb).— + = the anode ; — = the cathode.

Now, what will the effect of each of these methods of combination have on the intensity of the current ? Ohm's law comes into play in deciding such a problem.

We must first ascertain the internal resistance of the form of cell which we have selected for our battery.* We must know also the external resistance which we shall have to overcome in our proposed use of it. Finally, we must ascertain the electro-motive force of the elements of each cell.

Suppose, for example, that E = 1, Ir = 20, Er = 10. The current of each cell would then be expressed as follows: $C = \frac{1}{20+10} = \frac{1}{30} = .033+$. Now, if twenty cells of this kind be joined in "simple circuit," the elements have each been practically increased twenty times, and the internal resistance has therefore been decreased twenty times. The external resistance remains the same. We therefore have $C = \frac{1}{\frac{20}{20}+10} = \frac{1}{11} = .0909+$.

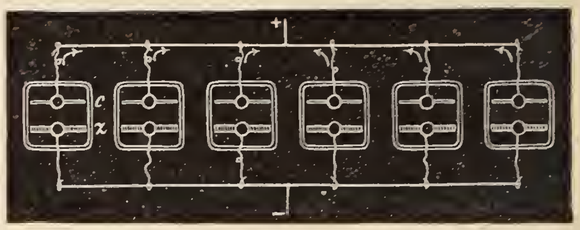


Fig. 7.—Six Cells connected for Quantity, i. e., "in surface," or in "simple circuit." (After De Watteville.) *z*, zinc elements ; *c*, carbon or platinum elements. This arrangement does not affect the "electro-motive force" of the battery.

If these cells be now arranged in "compound circuit," the electro-motive force and the internal resistance will be increased twenty times. We should thus have the following formula : $C = \frac{1\times20}{20\times20+10} = \frac{2}{41} = .048+$.

Finally, if the cells were arranged in four groups of five each in simple circuit, we should have practically four cells with elements five times as large ; hence the internal resistance would be only one fifth that of a single cell and the electro-motive force four times as great. We should then have the following formula : $C = \frac{1\times4}{\frac{20}{5}+10} = \frac{4}{14} = \frac{2}{7} = .285+$.

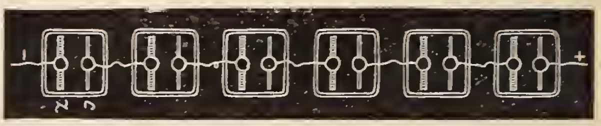


Fig. 8.—Six Cells Connected for Intensity. (After De Watteville.) *z*, zinc elements ; *c*, carbon or platinum elements. This arrangement is known as "in series" or "compound circuit." It increases the "electro-motive force" of the battery.

Remember that the *electro-motive force means the difference in potential of the cell-elements. It is therefore unchanged by their size.* A cup of water elevated one hundred feet will produce as much pressure through a pipe connected with it (provided that the cup be kept constantly filled) as would a lake ten miles in circumference, at the same elevation and similarly connected with the pipe. So it is with electro-motive force. The size of the elements will alter the *quantity* of electricity generated ; but the electro-motive force of a cell or battery will remain undisturbed by increasing or diminishing the size of the elements. I frequently hear this remark made : "The cells are too small for medical purposes, are they not ?" To this question I would reply that intensity of current and moderate quantity are to be aimed at in constructing a medical battery.

The few illustrations which have been given show that the current-strength has been modified in each instance by the changes made in the arrangement of the cell-elements.

If, however, we took a higher external resistance (as would be required in a medical battery—say about 2,500 ohms), we should find that the simple circuit arrangement made but little difference in the power of the current, while the compound circuit materially increased the current-strength. It is important to remember, therefore, that the *external resistance is an important factor in modifying the strength of the current*, and that all combinations of cells are not equally efficient.

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* To compute the internal resistance of a cell or battery requires apparatus not generally owned by medical practitioners, *i. e.*, a coil rheostat, which may be confidently regarded as accurate, and a carefully calibrated galvanometer, by a standard maker. The rule given by De Watteville, and copied from him, apparently, by Amidon, would be simple if it were true. I have tested it again and again, and have personally discarded it as unworthy of credence. I have also had a professional electrician test it. He arrived at the same unsatisfactory results. The rule of De Watteville, to which I refer, is as follows : First note the needle-deflection of the cell or battery to be tested under a given resistance ; then introduce sufficient additional resistance to reduce the recorded needle-deflection exactly one half. The added resistance will equal the internal resistance of the cell or battery tested. The internal resistance of any cell can be computed with accuracy ; but by a more complicated method, described in most of the standard works upon electricity. Most manufacturers can give the requisite information respecting the internal resistance of any cell used by them, and that resistance, multiplied by the number of cells employed, will equal the total resistance of a battery (the cells being united "in series," as shown in Fig. 7).

The most useful battery for medical purposes is one which is planned with a view of making the internal and external resistances as nearly equal as possible.

When we wish to construct a battery for *ordinary galvanic treatment*, it is best to overcome the high resistances encountered by using a *large number of small cells, with a high electro-motive force, coupled in compound circuit*—i. e., "in series." The aggregate internal resistances of the cells never will exceed the external resistance furnished by the living tissues.

In devising a battery for *electrolysis*, the arrangement should be such as will secure simple intensity. The resistance to be overcome by the current in passing through small portions of the body seldom exceeds ·100 to 500 ohms. A *small number of cells of medium size* (16 to 24 of Grenet's cells), coupled in compound circuit, will give us the desired ends and accomplish the best results.

A *cautery battery* requires *very large plates, placed closely together.* In the "Piffard battery" the zinc plates are perforated, and the elements are so arranged as to be mechanically shaken in the fluid while the battery is in action. I regard this as the best instrument of its kind. Its action is continuous, and the heat generated may be maintained at any desired temperature by one familiar with its management.

The Various Forms of Cells.—Human ingenuity has been strained to its utmost for a century to devise an absolutely perfect galvanic cell. Space will only allow here of a brief statement of the varieties of cells now in common use. The construction of each and the peculiar advantages and disadvantages of each will be also tersely mentioned.

SPECIAL FORMS OF THE GALVANIC CELL.

All forms of galvanic cells may be classed under one of three groups, as follows: (1) one-fluid cells, with no depolarizer; (2) one-fluid cells, with a solid or liquid depolarizer; (3) two-fluid cells.

Each of these three varieties has many modifications, which are commonly named after the inventor. A few of each only need be mentioned.

I. One-fluid Cells, with no Depolarizer.—The elements of this group are all immersed in a fluid to which nothing has been added to prevent polarization (i. e., the formation of bubbles of hydrogen on the negative and of oxygen on the positive element of the cell during its period of activity).

Smee's Cell (1840).—Perhaps the best of this group is that devised by Smee. It consists of two zinc plates with one of platinized silver, suspended between the zincs, immersed in diluted sulphuric acid. The electro-motive force is about ·47 volt.

Walker's Cell (1859).—Platinized carbon in place of platinized silver is cheaper than Smee's cell. E. M. F. = ·66 volt.

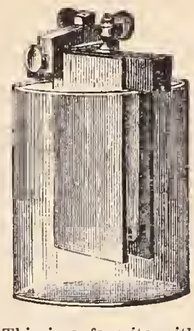

Fig. 9.—Smee's Cell. This is a favorite with some manufacturers for a portable faradaic machine. In the author's opinion, it is far less satisfactory than Fuller's cell if the battery is a permanent one, or a Grenet cell if the battery is designed for transportation. It is active at first, but weakens rapidly from polarization.

II. One-fluid Cells, with Solid Depolarizers.—The best of this group is the cell devised by Leclanché.

Leclanché's Cell (1868).—The carbon element is packed in a porous cup, with the needle form of the black oxide of manganese surrounding it. This cup is then placed in a glass vessel, containing a rod of zinc and a solution of sal ammoniac. The cup is carefully sealed to prevent evaporation and escape of its contents. E. M. F. = 1·48 volt, when the battery is not polarized.

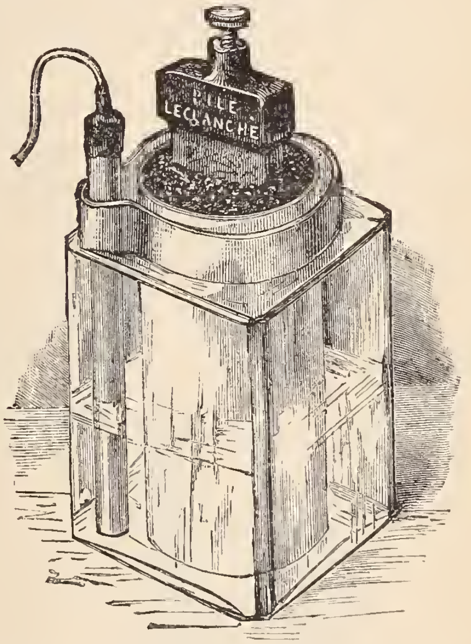

Fig. 10.—Leclanché's Cell. The zinc rod (the one with its rheophore attached) is shown as immersed in a solution of ammonic chloride. The carbon element is seen to project slightly above the porous cup, in which, when the cell is properly prepared for action, it is packed with peroxide of manganese and afterward covered with pitch.

Marié-Davy Cell.—Amalgamated zinc, acidulated water, carbon, and a paste of sulphate of mercury. E. M. F. = 1·52 volt.

Agglomerate Leclanché Cell.—The carbon is surrounded by plates of a special composition, which are bound around it by India-rubber bands. The internal resistance can be intensified by adding plates as desired. E. M. F. =

1·48 volt. The internal resistance with one plate = 1·8 ohm; with two = 1·4 ohm; with three = ·9 ohm.

III. One-fluid Cells, with Liquid Depolarizers.—Of this group the Grenet cell is the most used for medical purposes.

Grenet's Cell.—The elements are two plates of carbon and one zinc plate (amalgamated). The zinc element can be lowered into the fluid or raised at will. It lies between the carbons. The depolarizer is bichromate of potassium. The active constituent of the fluid is dilute sulphuric acid. These two ingredients form what is known as the "red-acid fluid." These cells are of different sizes.

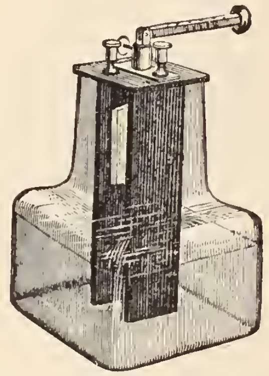

Fig. 11.—Grenet's Cell. The flasks come of all patterns, according to the taste of the various makers. In the form here depicted the zinc is lowered into the fluid by a jointed handle. This is the cell most used in all portable electrical apparatus. It is cheap, efficient, and easily repaired. Removing the elements and replacing them overcomes "polarization" in case the current grows weak from that cause. Some makers place the zinc in a drip-cup when the cell is not in use.

Trouvé's Cell (1875).—Similar to Grenet's, but of large size. E. M. F. = 2 volts. The internal resistance varies from ·0016, when first set in action, to ·07 after the "spurt." The plates are raised and lowered by a windlass. The extent of immersion can thus be graduated. This form of element is known as a "plunge-battery."

Fuller's Cell.—A porous cup containing zinc, mercury, and water is placed in a large glass jar containing red-acid fluid, in which a large carbon plate is immersed. The mercury keeps the zinc amalgamated. The elements are not removed when the cell is not in action. This form of cell is perhaps the best one yet devised to run the faradaic part of a cabinet battery.

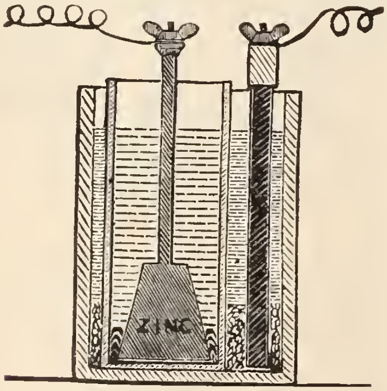

Fig. 12.—Fuller's Cell. This is the best cell (in the opinion of the author) to use in connection with a permanent faradaic machine. It is not well adapted for transportation.

IV. Two-fluid Cells.—In this group, the Daniell, Grove, and Bunsen cells are the most used. The two latter are not well adapted for medical purposes. The fumes which arise from some of them are unpleasant. Dynamos are now generally substituted for them in the mechanical arts.

Daniell's Cell (1836).—The so-called "sulphate of copper" cells (of various types) are modifications of that devised by Daniell. The elements are zinc and copper, separated in the original form by a porcelain or baked-clay diaphragm. The zinc is immersed in dilute sulphuric acid, and the copper in a saturated solution of sulphate of copper. E. M. F. = 1·079 volt. The solution for the zinc element may be pure water, salt and water, or a solution of sulphate of zinc.

Siemens and Halske's Cell.—This is a favorite cell for medical batteries in Europe. It is a modification of the Daniell's cell and is expensive. A copper rosette is placed in a saturated solution of sulphate of copper at the bottom of the jar; this is covered with a porous diaphragm packed with *papier-maché*, on which the zinc rests surrounded by water. Water is added to the battery from time to time,

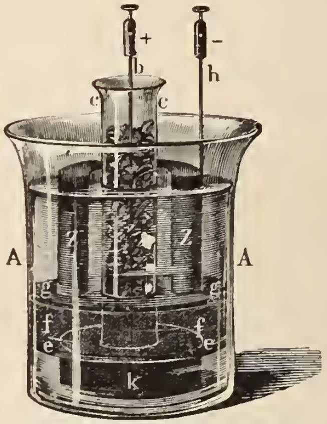

Fig. 13.—Siemens and Halske's Cell. This cell is very efficient, but it is expensive to repair when the battery becomes exhausted. It is highly recommended by some European authorities for use in a cabinet or permanent office battery. In this country the Leclanché cell is more favorably regarded.

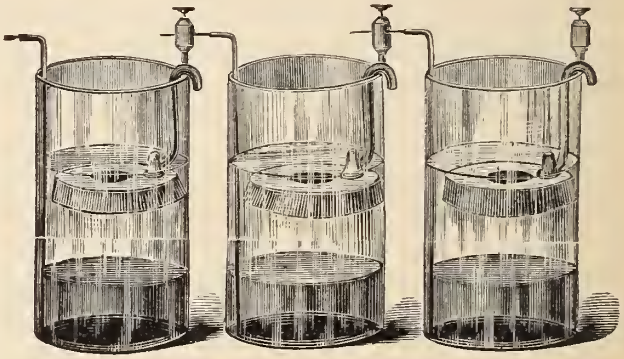

Fig. 14.—Hill's Gravity Cell. This cell is employed very extensively in telegraphy, and is recommended by some authors for permanent medical batteries. When the jars are well paraffined at the top the cells do not "salt" badly. They require but little care when properly set up. Personally, I prefer a modification of this cell (in which the zinc is placed within a suspended porous cup) to the one shown in the cut. It requires less care, and is not affected by agitation. It also has a higher internal resistance.

and also crystals of the sulphate of copper. This form of cell is very constant; but it is *extremely difficult to repair* when out of order. As a permanent battery, such cells may last a long time with proper care; but they often do not, as the cells may become impaired from a multitude of causes (poor construction, improper use, etc.).

Hill's Gravity Cell.—This is another modification of the Daniell cell. It is used in medicine by many neurologists. A copper plate rests on the bottom of the glass jar, covered with a saturated solution of sulphate of copper. The zinc element is a disk perforated by a large central opening, through which crystals of sulphate of copper may be dropped when the battery is inactive. A solution of sulphate of zinc floats, without an intervening diaphragm, on top of the copper solution, and immerses the zinc disk. This battery must not be agitated, as the two solutions would then become mixed. E. M. F. = 1·068.

Grove's Cell (1839).—This consists of amalgamated zinc immersed in dilute sulphuric acid within a porous pot. Outside of this pot platinum is immersed in nitric acid placed in a glass jar. E. M. F. = 1·96 volt. The platinum is bent into an S-shape to increase its surface. Many modifications of this cell have been made for use in mechanical arts. The fumes arising from it are very objectionable.

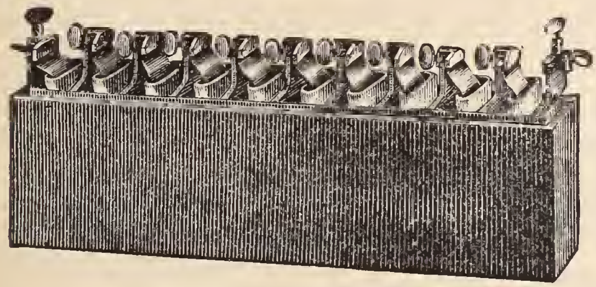

Fig. 15.—Grove's Cell. This cell (shown here in the form of a battery) is not used in medical practice, chiefly on account of the fumes which arise from it. If used in the mechanical arts, it is a very expensive cell to employ. Dynamo-machines have now taken the place of Grove batteries to a very great extent.

Bunsen's Cell (1840).—This is a modification of the Grove cell. The platinum is replaced by artificial carbon in the form of a hollow cylinder, and a cylinder of zinc is bathed in dilute sulphuric acid. E. M. F. = 1·9 volt.

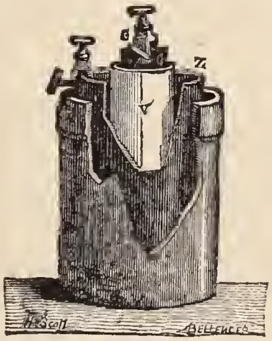

Fig. 16.—Bunsen's Cell. Parts are represented as bitten away to show its arrangement: the cylinder of zinc (*z*); a porous cup (*v*); and the carbon (*c*) within it. This cell is not employed in medical batteries, for reasons similar to those given in connection with Fig. 15.

(*To be continued.*)

Original Communications.

TUBERCULOSIS OF THE GENITO-URINARY TRACT.*

By H. G. LYTTLE, M.D.,

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The discovery first made by Lichtheim of the tubercle bacilli in the urine of the cadaver, and by Rosenstein in the urine of the living subject, has given us increased facilities for diagnosis, and added a new interest to this subject of tuberculosis of the genito-urinary organs. It is usually a part of general tuberculosis, about one patient in eighteen suffering from uro-genital tuberculosis; but primary phthisis of certain portions of this tract is, however, not infrequent, and without the lungs or other organs being affected.

The testicle, the kidneys, and the prostate, with the seminal vesicles, are centers of infection in the order named. From observations thus far recorded, the ureters are never primarily affected, but only by an extension of the process from the kidneys or bladder. The kidneys are more frequently affected in children than in adults. The bladder is very rarely the seat of primary phthisis, the disease extending nearly always from the kidneys, rarely from the prostate. The urethra is scarcely ever primarily affected, the infection extending from the bladder or prostate. The testicle is frequently the starting-point of the disease, from whence it extends to the prostate, the vas deferens not generally becoming affected, and, when it does, only at its commencement or termination.

The different organs are attacked in an irregular way, often one side only being affected—most frequently the right side. When the kidney is the starting-point the disease does not usually extend beyond the bladder or prostate. If the testicle is the primary seat of the disease, it does not usually extend beyond the prostate and bladder. When the prostate is primarily affected, the disease may extend in both directions, but frequently the kidneys and testicle are affected simultaneously with the prostate. The seminal vesicles may be affected independently of the prostate.

The history of reported cases would show that inflammation and injury act as predisposing and exciting causes. Terrillon † reports a case of primary tuberculosis of the epididymis, in a healthy young man of thirty-two, following closely an acute attack of epididymitis. The seminal duct, vesicula, and prostate of the same side became affected. Epididymitis as a complication of urethral disease is common, and there is generally a varying amount of exudation left behind, which may be a reason why tuberculosis attacks the epididymis oftener than the body of the testis. True, the globus minor is more affected in epididymitis, and tubercular disease attacks the globus major oftener than the globus minor; but I think it would be well to follow up these cases of epididymitis more closely and see if they do not sometimes end in tubercular disease.

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* Read before the Clinical Society of the New York Post-Graduate Medical School and Hospital, February 21, 1885.

† Terrillon, "Gaz. des hôp.," 1884, p. 122.

Dr. D. P. Allen,* of Cleveland, Ohio, reports a case of primary phthisis of the right vesicula seminalis caused by encysted stone. Removal of the stone was followed by general miliary tuberculosis of both lungs. At the autopsy the right vesicula seminalis was found in a cheesy, tubercular condition. Verneuil † advances the hypothesis that "the primary tuberculosis of the genito-urinary organs, in cases where there is no scrofulosis co-existing or pre-existing, may, perhaps, originate in direct infection by means of coitus, the tuberculous micro-organisms migrating through the external sexual organs, proceeding to some point of the apparatus at which they find the most favorable condition for their stay and development."

Cases of gonorrhœal cystitis have been reported in which, in addition to the gonococci, tubercle bacilli were found in the urethral discharge; whether the tubercular disease was primary or had remained latent and been excited by the gonorrhœa was undecided. Tubercular disease of the urinary and sexual organs sometimes occurs as a result of scrofulosis and simple suppurative processes of the uro-genital apparatus, the spinal column, etc. In these cases the disease is not primary, but attention is called to it to show the necessity for thorough treatment in cases of chronic gonorrhœa and its complications when there is latent phthisis.

PATHOLOGICAL CHANGES.—There is a wide difference of opinion among pathologists on this subject. Rindfleisch ‡ states that in the testicle the cheesy nodules are due to some change in the interior of the intertubular lymphatic spaces of the gland, the tubuli seminiferi remaining passive. Virchow # states that the process always commences by a formation of small miliary tubercles in the loose connective tissue between the tubuli seminiferi, which becomes confluent and undergoes caseous degeneration, and never originates in the epithelium or in the interior of the tubules. It is also maintained that the miliary noduli spring from the adventitious coat of the blood-vessels. Probably in certain cases all three are correct. Curling ‖ thinks that in the majority of cases the disease results from abnormal conditions of the contents of the tubules.

The changes in the kidneys consist in the formation of yellow, cheesy infiltration, preceded by small, gray tubercles within the renal capsule, the cortex, the medullary substance, the pelvis, and the ureter. When these infiltrations break down, cavities are formed in the parenchyma which resemble abscesses, having a tendency to perforate into the pelvis. The tissue which has remained free from tubercles often presents nephritic changes. In the pelvis and ureters may be found ulcerations like those found in the intestines. The kidney is not much enlarged unless pyonephrosis exists due to obstruction of the ureter by thickening of its wall or wedging in of cheesy masses. The surface of the kidney is vari-colored and has protuberances corresponding with the tubercular infiltrations. In some cases in the late stages there may be only the capsule filled with cheesy matter and remains of the calices.

In the bladder we find distributed tubercles or tuberculous ulcers, a favorite location being the trigonum and the ring surrounding the orifice. The ulcers sometimes lead to undermining and detachment of the mucous membrane. In some instances the whole inner surface of the bladder presents itself in a condition of ulceration.

Perforating ulcers are rare. The mucous membrane not involved is in a catarrhal condition, the urine often being ammoniacal.

Tubercular disease of the prostate probably commences in the glandular structure and not in the fibrous stroma. It occurs in the lateral lobes most frequently, in the form of minute yellowish deposits like millet-seeds. A mass forms which sooner or later breaks down and discharges into the urethra, leaving a cavity behind surrounded by a limiting membrane which secretes pus.

The diagnosis of primary tuberculosis of the genital organs has always been considered extremely difficult, but within the past year or two tubercle bacilli have been found in the urine of persons suffering from tuberculosis, also in the secretion coming from a fistula leading to the epididymis of a testicle which, upon removal, was found to be tubercular.

Isolated tuberculosis of the testis occurs much more frequently on the right side,* and is generally seen as a subacute inflammation, which goes on slowly to suppuration. There is very little pain until the cheesy mass softens, when the inflammation extends to the surrounding tissues, uniting them to the skin, which becomes inflamed, and the resulting abscess discharges itself, leaving a fistula. The differential diagnosis is to be made from cancerous or sarcomatous disease, from syphilitic disease, and from chronic epididymitis. That the diagnosis is not always easy is shown by the report of two cases by Walsham, of London, of removal of supposed other malignant disease of the testis which, upon examination, proved to be tubercular.

Tubercular disease commences in the epididymis and gives rise to an uneven, irregular tumor, which becomes attached to the scrotum, and the cord is early affected. Sarcoma and cancer nearly always commence in the body of the testis, produce a smooth, ovoid tumor, and are more painful as the disease goes on, and it is only at a later period that the cord becomes affected and the tumor adheres to the scrotum. If suppuration has occurred, an examination should be made for bacilli. In all cases an examination of the cord, prostate, and vesicula seminalis, as well as the lungs, should be made. In syphilitic disease of the testis the body of the testicle is affected, but there is no pain except that caused by its weight. It enlarges slowly, and does not usually go on to suppuration. There is generally some effusion into the tunica vaginalis. The process commences on the inner surface of the tunica albuginea, and not in the central portion of the testis, as when the body of the testicle is at-

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* "Med. Record," May 31, 1884, p. 605.

† "Gaz. hebd. de méd. et de chir.," 1883, Nos. 14 and 15.

‡ New Sydenham Society's translation, vol. ii, p. 189.

"Pathologie des tumeurs," traduit de l'allemand, t. iii, p. 132.

‖ "Diseases of the Testis," p. 333.

* Paul Fürbringer, "Die Krankheiten der Harn- und Geschlechtsorgane," Braunschweig, 1884.

tacked by the tubercular process. In subacute and chronic epididymitis there is pain, occurring early in the disease, with evidences of inflammation, and treatment gives decided results.

When the testicle is primarily affected, the disease extends to the other genito-urinary organs, and the patient dies with symptoms of phthisis, and perhaps without disease of the lungs or other organs. It is, however, said that the disease does not extend in this way, but that the process is a descending one from the kidneys, and that when the testicle becomes affected it is too late to do any good by surgical measures. This latter is in opposition to views held by most surgical authorities. The symptoms of primary phthisis of the prostate, bladder, and kidneys are the same as those of inflammation from other causes. When the kidney is primarily involved, the commencing symptoms are insignificant and indistinguishable. If there is no destruction of tissue, there is no change in the urine. If only one kidney is affected and its ureter obstructed, the urine might be normal. This might give rise to pain over the affected kidney, and possibly to colic. The diagnosis must be problematical unless we find the bacillus in the urine. This has been done by Lichtheim and Friedländer in the cadaver, and by Rosenstein,[*] Irsai,[†] Leube, Babes, Cornil, and others in the living subject. The urine in patients suffering from tuberculosis of these organs contains pus and albumin, and sometimes blood. The microscope also shows detritus as a product of destruction of tissue; also casts and epithelium. More characteristic is the appearance of cheesy crumbs, composed of detritus and elastic fibers, in the urinary sediment. Rosenstein noticed white flakes swimming in the urine, which was turbid when voided and deposited sediment. A dry preparation of the sediment, colored according to Ehrlich's method, showed numerous bacilli, most numerous in the flakes. Damsch ("Arch. f. klin. Med.," Bd. xxxi, S. 78) made inoculations on the eyes of rabbits with the purulent sediment of urine of persons suffering with symptoms of tuberculosis of the urinary organs. Thirteen inoculations were made with urine from seven patients. In all, local and general tuberculosis followed. The inoculations were made into the anterior chamber and vitreous body, and in two cases there was simultaneous septic infection, the bulb being destroyed by panophthalmitis. The urine of these patients was sometimes voided in a clear condition, when it gave negative results, so that there will probably be cases of tuberculosis of these organs in which the bacilli will not be found in the urine, the same as there have been cases of tuberculosis of the lungs in which the bacilli have not been found in the sputum; and, as there are no characteristic symptoms of this form of disease, a positive diagnosis will be impossible. Finding the bacillus in the urine does not tell us the exact location of the disease. We should also be guided by the other symptoms in making a diagnosis, and remember that the kidneys, pelvis, and ureter are more frequently affected than the bladder.

In some cases when the prostate is affected there is a breaking down with a discharge of pus into the urethra, which should be examined for the bacillus.

Englisch ("Oester. med. Jahrbuch," 1883) describes a tubercular peri-urethritis externa and interna, according as the process is in front of or behind the deep fascia. If it is in front, it is due to inflammation and suppuration of Cowper's glands; if behind, due to tubercular disease of the prostate and seminal ducts. In the latter, suppuration occurs and pus finds its way down the sides and front of the rectum, causing fistula in ano. I have had one case of inflammation and suppuration of Cowper's glands occurring as a complication of urethritis, and in a strumous young man. The abscess was opened, and later on there was a hard, inflamed swelling close to the anus on the same side, ending, however, in resolution. The fistula left from the abscess healed after a long time, and there has been no subsequent trouble in that region or elsewhere.

The treatment of tuberculosis of the uro-genital organs, except when the testicle is affected, must be conducted on general principles. When a diagnosis has been made of tuberculosis of the testicle, the organ ought to be removed, for, if left to itself, the disease will extend to the other organs. The removal of the cheesy masses with the curette after an incision has been made is advocated, but must prove inadequate, as Simon ("Deutsch. Zeitschrift f. Chirurg.," Bd. xviii, p. 157) has found, upon examination of eight tubercular testicles removed by castration from six patients, and four removed post mortem, tubercular disease of the tunica vaginalis in eight cases, and in one case its obliteration. In the three remaining cases the disease was in its earliest stages. If the curette is to be relied upon, the tunica vaginalis will have to receive its share of attention, which is hardly practicable.

UNUSUAL FORMS OF PHTHISIS.[*]

By JAMES K. CROOK, M. D.,
ASSISTANT TO THE CHAIR OF PHYSICAL DIAGNOSIS IN THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

During the past year I had an opportunity of following to their termination in death nine cases of pulmonary phthisis. Two of them exhibited such peculiar features that I have thought they were worthy of record.

Case I.—A Swede, thirty years of age, entered Dr. Burt's clinic at the Post-Graduate School in May last. She dated her trouble from the spring of 1883, when a slight hacking cough set in that lasted through the summer and winter. In April of 1884 the expectoration, which was of a yellowish color and abundant, became streaked with blood; hæmoptysis had already occurred several times. Night-sweats were frequent, and there had been progressive emaciation with scanty menstrual flow. The voice was husky, the skin was hot, and her face showed a hectic flush. Family history phthisical.

Physical examination by Dr. Burt before the class revealed flattening of the subclavicular spaces on both sides, but the percussion note was normal; respiratory murmur a little rude, and expiratory note somewhat high-pitched and prolonged; otherwise nothing abnormal was found in the lungs. The heart's action was frequent, but there were no murmurs or other indications of cardiac abnormity. The patient was placed under anti-phthisical treatment. She repeated her visits almost every week for about two months, and was carefully examined at each visit. No noteworthy changes were manifested in the physical signs. The percussion note over both lungs became a little less clear, perhaps, but there was hardly an approach to dullness at any point. After she had attended the clinic three or four weeks, occasional small mucous and subcrepitant râles could be heard at different points on both sides, but they were extremely infrequent and at times could not be elicited. The breathing was losing a little of its vesicular character, but did not become bronchial. No appreciable changes were ever detected in the vocal resonance or fremitus. During this time the patient had all the common rational symptoms of advanced pulmonary consumption. The cough continued unchecked, and she had frequent slight hæmorrhages, with almost continuous fever, the temperature frequently rising to 102° or 103° F. The urine was twice examined and found to be non-albuminous. Gradually emaciation became extreme and marked dyspnœa was established, the patient becoming so weak and exhausted by the middle of July that she was no longer able to visit the school. I then attended her at home. Frequent examinations were made of her chest, but no physical signs were developed except those above mentioned. On the morning of July 28th she had an attack of pulmonary œdema, of which she died the next day at 1 P. M.

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[*] Rosenstein, "Vorkommen der Tuberkelbacillen im Harn," "Centralbl. f. d. med. Wissensch.," 1883.

[†] Irsai, A., "Zur Diagnostik der Tuberculose des Harnapparates," "Wiener med. Presse," 1884.

[*] Read before the Clinical Society of the New York Post-Graduate Medical School and Hospital, February 21, 1885.

Judging from her history, the dry cough (at the beginning), emaciation, high temperature, and the concomitant symptoms, this was as typical a case of phthisis pulmonalis as one could wish to see. When we review the physical signs, however, it is seen that they were of little value in forming the diagnosis. Though an autopsy was not made, nor were the sputa examined microscopically, it seems fair to presume that this was a case of chronic tubercular phthisis, in which the phthisical nodules were disseminated throughout the lung tissue at such remote intervals as to give rise to no physical signs by which they could be located or their presence even determined with certainty. If cavities were formed, they were so minute as to be unappreciable. I have met with a few similar cases in which the patients seemed to be in a state of decline, and in which the symptoms pointed to the lungs as the seat of the pathological processes, but in which the physical signs were almost or quite negative. The foregoing case is the only one of this kind where I have seen the termination.

Case II.—A young girl was brought to me by her father in July of 1884. For several years she had suffered from loss of appetite, a sensation of weight in the epigastrium after eating, and frequent attacks of diarrhœa. During the past winter she had developed what the father called a severe attack of bronchitis, for which she had been treated with nostrums. She did not improve, but grew pale and thin, and failed rapidly with the beginning of spring, when she began to complain of severe pains at the summit of the chest on the right side. She had had several attacks of hæmoptysis, and was rarely free from fever. The patient, on examination by me, was found to be pale and cachectic in appearance and was suffering with dyspnœa, the respirations being 48, pulse 140, temperature 103° F. Her bowels were extremely loose. On physical examination, I found evidences of partial consolidation at the upper part of the right lung. Vocal resonance and fremitus were increased to some extent, and there was considerable flattening of the supra- and infra-clavicular spaces on the right side. The percussion note was dull over the upper half of the lung, though it had not entirely lost its pulmonary character. Small crackling râles were heard on auscultation. The left lung was normal. There were no physical signs of excavation at any part of the chest. The patient was put under treatment, but sank rapidly and died a few days later in a Pennsylvania country town.

The history of this case would seem to justify the conclusion that it was a case of acute caseous phthisis or *phthisis florida.* The chief point of interest in connection with it is the fact that death occurred before the formation of cavities. If they were developed, it must have been in the brief interval elapsing between my examination, when there was not the slightest evidence of their existence, and the death of the patient, which does not seem probable. The severe diarrhœa would seem to indicate a tuberculous invasion of the intestinal tract. These two cases, and especially the first one, pursued a somewhat peculiar course, and the usual division of the stages of phthisis would not apply to them. Such cases are perhaps not uncommon, and their number is not sufficient to invalidate the commonly adopted classification of the stages, viz.—*consolidation*, *softening* (which can usually be made out by a careful examination of the sputa), and *excavation.*

In the light of our present knowledge of the pathology of phthisis pulmonalis, it strikes me that this classification is an eminently fit and proper one.

INTRA-PULMONARY INJECTIONS,

WITH AN ACCOUNT OF TWO CASES.*

By WENDELL C. PHILLIPS, M. D.,

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We must give great credit to Professor William Pepper, of the University of Pennsylvania, for his exhaustive studies in intra-pulmonary injections, and also for his critical analyses of the results that have thus far been obtained. His two articles may be found in the October number of the "American Journal of the Medical Sciences" for 1874, and in the "Transactions of the American Medical Association" for 1880.

The earliest accounts of these operations carry us back to Hippocrates, Galen, and Rhazes, but it may be questioned whether these cases were not those of empyema, as they spoke of redness of the skin at the points of puncture, and bulging of the intercostal spaces. Operations upon cavities probably date from the time of Bagleori, who, in 1696, was called upon to open the thoracic cavity to remove a foreign body from the lung. His patient recovered, and he reasoned that incision of the lung was applicable in other cases, saying that "now practitioners ought to use the same diligence in curing a phthisical ulcer in the lungs." It is not known whether he put his theory to a practical test. But Barry, of London, in 1727, did perform the operation, and stated that it was not attended with much danger.

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* Read before the Clinical Society of the New York Post-Graduate Medical School and Hospital, February 21, 1885.

In the early part of the present century similar operations were performed by Richter, Ramadge, and Herff, either by incision or puncture, and Herbst (1845) also performed the operation, but he reasoned from the standpoint that, if the pus were to be drained from a cavity, the surrounding healthy lung tissue would expand and force the walls of the cavity into apposition.

In the same year Hastings and Stork (London "Medical Gazette," 1845) operated successfully, but after this the operation seems to have fallen into disrepute, and by many noted writers has not even been mentioned.

In 1873 Dr. Wilhelm Koch (Langenbeck's "Arch. f. klin. Chir.," Bd. 15, Heft 3, 1873) demonstrated that injections of dilute solutions of iodine could safely be made into the lungs of dogs, and suggested their efficiency in the treatment of phthisical cavities. Accordingly, Mosler ("Berlin klin. Wochenschrift," October, 1873) punctured moderate-sized cavities in two cases, and allowed a small cannula to remain, through which he injected various fluids; and in a third case he made a long incision along the upper border of the third rib almost to the lung, enlarged the opening with a suitable pair of forceps, and introduced a drainage-tube.

He injected at different times solutions of permanganate of potassium, iodine, and carbolic acid, with invariably good results.

One of the patients died some time afterward from albuminuria and extension of the tubercular infiltration, and at the autopsy the cavity showed signs of having been modified by the treatment.

Pepper modified the plan of making external open communications; and, by means of a syringe similar in its action to an ordinary hypodermic, proposed to modify the relations of the walls of the cavities and the surrounding tissues without changing the relations of the diseased tissue with the external air.

He treated a large number of cases in this manner, and, though many were only slightly improved, there were no bad results obtained.

Dr. Beverley Robinson, of this city ("Medical Record," January 10, 1885), goes a step farther and proposes to inject "consolidated lung-tissue," hoping to bring about resorption before softening of the diseased tissues takes place. He has also very carefully experimented upon the cadaver to find the different localities of the thorax through which it is safe to plunge the needle.

I have given a very hasty review of the history of this plan of treatment, and, although it is so natural for us to be skeptical in regard to any plan of treatment proposed for this disease, yet it seems to me to deserve a fair trial at our hands, and we may at least be able to find a class of cases which will be benefited by the plan.

I have only treated two cases, whose histories I give, together with some observations arising from my experience with them.

Case I.—A case of advanced phthisis, first seen two days before death.

Mr. D., aged fifty, varnish-maker, family history non-phthisical. Had hæmorrhage of lungs seven years ago, but retained fair health until four years ago, when he began to cough and expectorate freely. About one year ago he was obliged to give up all labor on account of the severe cough, shortness of breath, and general weakness. In that time his weight had been reduced from one hundred and eighty to one hundred and twenty-five pounds.

Three months ago he had a large hæmorrhage from the lungs, followed by several smaller ones at short intervals. Physical signs: Great emaciation, respiratory movements restricted on the right side, right supra- and intra-clavicular spaces depressed; vocal fremitus increased on the left side, showing more recent consolidation on that side.

On percussion, a large cavity was discovered in the right apex, quite superficial, which was verified by auscultation.

Respiration 34, pulse 108, temperature 97° F., the temperature being taken in the morning.

The radial pulse was extremely weak, the finger-nails were blue, and the extremities cold. All the symptoms seemed to indicate that he could not live many hours. The patient had not been able to lie down for several days, and I found him sitting in bed with his head hanging forward, so that his chin nearly touched his knees. The muscles of his neck had become extremely rigid, and any attempt to straighten his head to a line with his body caused him great pain. I have been thus accurate in describing his condition in order to show the effect of the injection I gave him.

I introduced a hypodermic-needle about one inch and a half in the third intercostal space, in a line with the nipple, and injected ten minims of dilute Lugol's solution.

The pain was very slight, and no effect was noticed for about ten minutes, when he mentioned of his own accord that he breathed easier. He did not cough, and, after a few minutes, he was able to bring his head to a line with his body without giving him any pain in the muscles of his neck. He was able to lie down and breathe with comparative ease, and up to the time he died, two days afterward, he was not obliged to sit up in the bed.

I believe the suffering during the last two days of his life was very much modified by the injection, although I confess frankly I am not able to offer any suggestion as to how the injection brought about the result. I feel sure that it did so, because the amelioration of the symptoms was so sudden and followed so soon after its administration.

Even though it did not prolong his life, yet his remaining hours were made more easy to be endured.

Case II.—Mrs. L., aged fifty, widow, and by occupation a dressmaker. Born in Ireland. Came to this country twenty years ago. Has had eight children and five miscarriages. Her health first began to break down six years ago, at the menopause, though at that time her symptoms related mostly to gastric disturbances. One year ago she began coughing, and complained of shortness of breath. She lost flesh rapidly. Six months ago, while visiting in Ireland, she had a hæmorrhage from the lungs.

After this the cough became more severe, often causing her to vomit.

Physical examination revealed a large cavity in the apex of the right lung, which was quite superficial. No laryngeal complication.

At the time of the examination, January 15th, the pulse was 88, temperature 98·5° F., morning, respiration 24.

I ordered tonic doses of ferri et quin. cit., gave her directions as to proper nourishment, and determined to try the effect of intra-pulmonary injections in her case. The first one was administered on the morning of January 22d, an ordinary hypodermic syringe, with a needle one inch and a half long, being used. The puncture was made in the third intercostal space, in a line with the nipple, the needle being passed to a depth of one inch and a half.

The solution used was Lugol's, diluted with five times its quantity of water. She complained but little, and said it felt like a pain shooting through the lung.

January 24th.—The patient has breathed easier and expectorated less since the injection, and says she has felt no unpleasant symptoms. Gave her another injection.

25th.—Cough much improved. She sleeps a little, and says she feels stronger.

Gave the injection to-day in the second intercostal space, and before the fluid was all thrown into the cavity she was seized with a violent fit of coughing, at the same time remarking that she tasted the iodine in her mouth. The attack lasted about five minutes.

27th.—She says that about an hour after the previous injection she ejected a mouthful of pinkish-colored sputum.

She breathes easier, and her respirations are only 21—a falling off of three since the first examination.

Repeated the injection without causing any coughing. On this occasion I saw her in the afternoon, and found she had a temperature of 100° F.

Her cough was now so much modified that she no longer vomited.

29th.—Owing to quite a scare caused by the previous injection, I decided not to repeat the operation for four days.

February 3d.—She says she can go up-stairs much easier, and perform her duties with less fatigue than formerly.

This patient has consented to come before the society this evening, and I will now proceed to inject a few minims of the diluted Lugol's solution into the cavity. You can see the patient has the general appearance of a phthisical subject. I will have her sit in a chair, and take my position at her back. The point selected is in the third intercostal space, in a line with the nipple, bearing in mind to puncture the lower border of the intercostal space on account of the artery.

I might safely puncture outside the nipple line; but, if I were to go very far inside, the needle might enter the pericardium or one of the great vessels of the neck. Robinson has demonstrated that posterior apicial injections are very difficult on account of the narrowness of the intercostal spaces and the depth of the tissues. The injections can safely be made high up in the axillary region in the first, second, and third interspaces, the arm being held at right angles to the body.

I now direct the patient to take a full breath (as it is easier to keep the lung in repose at the end of inspiration than during any other period of the respiratory act), and introduce the needle to a depth of one inch and a half. You can see it has not caused her very severe pain and no cough, though in some instances quite a severe pain has followed the injection. I see no reason why a needle could not be graduated in inches and fractions thereof, which would enable one to be more accurate.

Two suggestions I would like to make, at the same time bearing in mind that one should not come to conclusions from an experience with only two cases:

1. Could not the injection be given with impunity much oftener than has been recommended by Pepper and Robinson?

2. Is not the severe paroxysm of coughing caused by the injection being thrown directly into a bronchus?

In regard to the first, you will notice that my patient received five injections in eight days, and the result has been not in the least disastrous. Now, if we propose to use carbolic acid, or any of the disinfectants, for their disinfecting properties, it would seem to be necessary that injections be made often.

In regard to proposition second, I noticed that each time when my patient had one of the paroxysms of coughing she at the same time mentioned that she observed the acrid iodine taste in the mouth. At one time, even while the injection was being thrown in, she said she tasted it, and immediately began coughing; *vice versa*, at the times when she did not cough she complained of no taste in the mouth.

The cough comes so suddenly that it can hardly be explained, except by the irritating effect of the fluid upon the membrane of some part of the bronchial tract.

220 East Thirty-fifth Street.

A CASE OF CHRONIC MYELITIS; RECOVERY.*

By A. D. ROCKWELL, M. D.,
NEW YORK.

The complete recovery of any case of chronic, supervening on acute, myelitis, in which all the most desperate features of that disease have been illustrated, is so rare an occurrence that, when such a result is claimed, the case should be subjected to the closest scrutiny. With this object in view I offer the following for your consideration and critical judgment:

Miss B., aged sixteen, was referred to me by the family physician, Dr. J. O. Farrington, of this city, September 22, 1884.

Three months previously she went on a Sunday-school excursion to the sea-shore, and all through the day experienced more or less physical depression, and, instead of actively engaging in exercise, she sat much of the time on rocks, near the water, which may have been damp from the tide. Upon returning from the picnic she felt cold and was so bent over that she could walk only with difficulty. During the night and for several days she suffered acutely, and within a week the lower limbs became completely paralyzed as well as the sphincters of both rectum and bladder. There existed not only inability to prevent evacuation of either the bladder or rectum, but there was an absolute unconsciousness of need in that direction. She suffered, consequently, from an aggravated form of constipation, and from incontinence of fæces after the aperient that was regularly called for.

Incontinence of urine was a constant symptom, supplemented by a severe attack of cystitis and accompanied by acute pain.

After six weeks of suffering a bed-sore made its appearance in the region of the last lumbar vertebra. It resisted all treatment, and rapidly enlarged until it was about two inches in diameter. In the early days of her illness the patient was extremely nervous and sleepless. A subcutaneous injection of morphine induced but two hours' sleep. The second night its administration was followed but by a single hour's repose, and finally it was discontinued altogether, as it failed to induce sleep and only greatly aggravated the nervousness. After two weeks of this persistent insomnia, she began once more to sleep naturally. For two months she lived almost entirely on milk and champagne. When I saw the patient she was emaciated to the last degree.

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* Read before the American Neurological Association, June 17, 1885.

Electro-muscular irritability to both currents was entirely abolished, the sphincters were paralyzed, the legs were contracted beyond the power of forcible extension, and the bed-sore was large, with a tendency to increase. The limbs were sensitive to the touch, with the paradoxical symptom of diminished sensibility when tested with the æsthesiometer.

A marked perversion of sensibility was evidenced by the exceedingly disagreeable numb feeling excited by the induced current.

After seeing the case with Dr. Farrington, I agreed with him that the prognosis was most unpromising, and it was only at the urgent solicitation of the father that any further active treatment was attempted.

The faradaic current had been used for several weeks previously, but, as was to be expected, without any effect whatever.

I immediately began galvanizing the legs and the lower portion of the spine, using a current strength of about thirty volts, and repeating the applications every other day. Three weeks of persistent effort failed to elicit any response in the way of muscular contractions, and the only evidence that the treatment might possibly be doing good service was the condition of the bed-sore. It began to assume a less dull and sluggish character and seemed to be sensibly contracting its periphery. At the end of the fourth week very faint muscular contractions were observed, and within another week they had so increased in vigor as to render it possible to interpret their character.

They were markedly the reactions of degeneration. Those who have given much attention to these phenomena know how difficult it is sometimes to eliminate all sources of errors, and to determine the exact order in which these irregular contractions occur.

In this case, however, it was not so difficult as I have sometimes found it to satisfy myself on this point. The A. C. C., or the anodal closure contraction, was decidedly more vigorous than the C. C. C. (cathodal closure contraction). Another abnormal and significant symptom from the electrical standpoint was that rapid interruptions of the galvanic current failed to call forth any response whatever. From this time onward the patient steadily improved.

The electrical reactions became quite normal, and within a month the bed-sore had entirely healed. The patient regained power over the bladder more rapidly than over the bowels; but within two months she had complete control over both fæces and urine. She was treated some four months, and at the end of that time was discharged as cured, with the exception of slight weakness in the flexor muscles of the right leg. This weakness still remains, indicating a possible irreparable damage to certain nerve-cells.

There can be but little doubt that this case was in the beginning one of acute inflammation of the cord. What the exact pathological condition was in its secondary and chronic stage may be a question involving a greater difference of opinion.

The tendency probably was either to degenerative softening or atrophy of the ganglion cells, and, to my mind, it was the second rather than the first pathological change that prevailed in this case; and that the whole transverse area of the cord was involved was evidenced by the complete abolition of both afferent and efferent nerve function. The practical value of this case, so far as relates to the pathological side, is in its distinct negation rather than in any affirmation. It is self-evident that, however much structural change had taken place in the way of atrophy of nerve-cells, or induration or overgrowth of connective tissue, the nutrition of these nerve-cells had not been sufficiently impaired to be beyond the influence of the reparative process.

In its therapeutic aspect the lesson taught can not be too strongly emphasized.

Four physicians, including myself, who had become interested in the case, regarded the condition as entirely hopeless.

The father, in the face of a completely discouraging prognosis, insisted that unceasing effort should be made, and subsequently his triumphant but somewhat reproachful thought was, "What would have become of my child if I had been guided by the professional opinion so confidently expressed?" *Apropos* of this case, which I am now permitted to present to you in person, some of you may remember one of infantile paralysis that I brought before this association a few years ago. It was a case seemingly as hopeless as the one before you, and occurred in the practice of the gentleman to whom I am indebted for this last. The same discouraging prognosis was given, for the case was a chronic one, with extreme atrophy of the extremities and absolute loss of muscular contractility to both currents. With heroic persistency the mother clung for months to the faintest shadow of a hope. As in this case of myelitis, it was only after many weeks of constant effort that slight reactions became evident, followed by an increasing improvement that finally ended in approximate recovery.

Book Notices.

Operative Surgery in the Calcutta Medical College Hospital: Statistics, Cases, and Comments. By Kenneth McLeod, A. M., M. D., F. R. C. S. E., Fellow of the University of Calcutta, etc. London: J. & A. Churchill, 1885. Pp. x–351.

India is a country little known to Americans, either in regard to its climate or in regard to its people. The same statement applies with greater force to the diseases and their medical and surgical treatment. The author of this volume has been for the past five years surgeon to the Calcutta Medical College Hospital, and, in the book under review, he has tabulated in an orderly manner all cases of surgical operation which have come under his care during his term of service. He has also compiled short notes of the cases from the detailed histories of them kept in the wards.

The volume is divided into twenty chapters. The first two are introductory, and give an account of the condition affecting the success of surgical treatment in the hospital, and the constitutional peculiarities of the patients who present themselves at the institution. Calcutta is badly situated from a sanitary point of view. It is only eighteen feet above the sea level, the climate is one eminently favorable to the development of malaria, and that portion of the city from which those requiring medical or surgical assistance come is badly drained, overcrowded, and very unfavorable to health and life. The hospital itself is badly located, and this, together with the climate and physique of the Bengalee, gives a much higher rate of mortality after surgical operations than that in similar American and European institutions.

The third chapter is statistical, and from it we learn that during Dr. McLeod's term of service eight hundred operations were performed, with a mortality of one hundred and eighteen, being 14·7 per cent.

All the operations are classified and treated of in the following chapter, namely—operations on the eye, operations on arteries, operations on joints, amputations, malignant tumors, elephantiasis, non-malignant tumors, removal of foreign bodies, removal of calculi, operations for hernia, incisions, abscesses, reparative operations, and nerve-stretching. Then follow a chapter on death-rates and causes and one upon hospitalism and antiseptics. An appendix gives the history of a case of reducible direct right inguinal hernia, in which ligature of the neck and removal of the body of the sac were performed, with an account of a dissection of the parts seven months and a half after the operation; and an account of a case of anæsthetic leprosy treated by nerve-stretching; also the history of a case of nerve-splitting. In each chapter every case belonging to that special class is given; the history of the patient, the nature of the operation, the length of his stay in the hospital, and the result are recorded. It concludes with a statement of the author's views on the special classes of cases, their general management, the details of operation, the causes of mortality, etc. So much for the plan of the work.

Diseases of arteries are rarely met with in India among the natives, although syphilis, strains, and injuries, which are considered the most prominent causes of aneurysmal disease, are very common. Strumous disease of the joints is uncommon, while catarrhal inflammation of the synovial membrane is frequent, being due to exposure, fatigue, injury, and malaria. Elephantiasis is very common; the author has operated in one hundred and forty cases, and his comments on this affection are valuable and will repay reading. We would specially call attention to his method of operating.

To the radical cure of hernia considerable space is devoted. He has operated in eighteen cases of strangulated hernia with a mortality of 50 per cent. This seems a very high rate, but the natives are careless as to the care of rupture, and do not apply for relief until strangulation has lasted for some time. There is also a great disposition of the parts to undergo gangrene in natives of Calcutta. Scrotal hernias are frequently associated with a diseased condition of the scrotum and testes, rendering the parts very prone to undergo suppurative inflammation after operation. Tetanus is exceedingly apt to supervene after operations connected with the scrotum and testes. In fourteen cases hernia was complicated with elephantiasis. In thirty-three operations for radical cure of irreducible hernia 12·1 per cent. died, and the author expresses the opinion that this operation will never become a safe and deathless one in India on account of the predisposition to the development of gangrene, tetanus, etc., after operations upon these parts.

We had marked other portions of the volume for notice, but space forbids. We cordially recommend this book as of exceeding interest and as a model of surgical statistics, and trust it will be read by those who are interested in operative surgery.

The Wasting Diseases of Infants and Children. By Eustace Smith, M. D. Lond. Fourth Edition. New York: William Wood & Co., 1885. Pp. xx–278. [Wood's Library of Standard Medical Authors.]

A Practical Treatise on Disease in Children. By Eustace Smith, M. D. Lond. New York: William Wood & Co., 1885. Pp. 844. [Price, $4.]

The first one of these books has long been known as embodying some of the best clinical descriptions of the diseases discussed. In reprinting it for the use of the profession in this country the Messrs. Wood & Co. have done a real service. The book is so well known that an extended notice of it is not necessary. We are not surprised that the author has abandoned the use of lime salts in the treatment of rickets. We are, however, disappointed in finding no mention made of the treatment by phosphorus.

Turning from this to the author's new text-book, we are obliged to confess, after a careful perusal, that it leaves much to be desired. Although written in a graceful, fluent style, and exceedingly readable, still, many of the articles are loosely written, as if they had been composed to order. Notwithstanding the confessed design to make a practical treatise, and the statement in the preface that treatment has been made specially prominent, we find in many cases that the author has touched but lightly on the points upon which we most want his opinion, or altogether omitted them.

His title, "Disease in Children," has led him to include every disease capable of being influenced by early life." Thus, much matter has been introduced not usually included in textbooks on children's diseases which does not, we think, add materially to the value of the book, since, in consequence, the discussion of the common diseases of children has been necessarily curtailed.

For example, ten pages have been devoted to chronic Bright's disease, while broncho-pneumonia has been disposed of in nine; ten pages are given to cerebral tumor, and only six to chronic hydrocephalus.

We are pleased to see the high esteem in which the author holds alcohol in infantile therapeutics, a thing we think often not sufficiently appreciated.

The use of arsenic to prevent scarlatinal infection we think will be new to many in this country. It is highly spoken of. Of one hundred persons exposed to the disease, only two contracted it while under the influence of the drug, and in them it was mild.

The treatment of cerebro-spinal meningitis is disposed of in fifteen lines as being almost hopeless. The bromides and ergot, so extensively used here, are not even alluded to.

The old English view of the identity of membranous croup and diphtheria is indorsed, although it is admitted that traumatism may produce a false-membranous inflammation of the larynx. The author states that he can not recall an instance (except of traumatic origin) in which membranous laryngitis was unaccompanied by false membrane elsewhere. Primary diphtheritic laryngitis is stated to be very rare. Nearly all the usual remedies which have been employed for this disease are mentioned, but it is hard to say which ones the author prefers. When the larynx is invaded, the early and prompt performance of tracheotomy is urged.

We are somewhat surprised at the statement that the most common and most serious complication of whooping-cough is collapse of the lung, and should have been glad of more pathological details upon this point.

The treatment of empyema recommended will commend itself, we think, to the judgment of most men in this country, *i. e.*, early aspiration, which may be repeated two or three times; but, if the fluid accumulates again soon or becomes fœtid, prompt incision, free drainage, thorough antisepsis, and washing out the pleural cavity may be performed only when signs of decomposition are present.

We are not prepared to indorse the statement made with reference to myelitis of the anterior horns, that "complete recovery, or at any rate vast improvement, is the rule, not the exception"; or this: that, "even when the recovery from the paralysis is complete [?], the child is still liable to some arrest of development in the affected limb."

To be of service as an antipyretic in pneumonia, quinine, we are told, must be given in full doses. Children bear it well. To an infant of twelve months one grain may be given three times a day. We think the author would be alarmed at the doses employed in this country.

We have contented ourselves with pointing out some of the defects of the book. Its excellences are many, but we think it can hardly supersede in this country such a book, for example, as that of Meigs and Pepper in meeting the wants of the American practitioner.

Micro-Chemistry of Poisons, including their Physiological, Pathological, and Legal Relations; with an Appendix on the Detection and Microscopic Discrimination of Blood. Adapted to the Use of the Medical Jurist, Physician, and General Chemist. By Theodore G. Wormley, M. D., Ph. D., LL. D., Professor of Chemistry and Toxicology in the Medical Department of the University of Pennsylvania. With Ninety-Six Illustrations upon Steel. Second Edition. Philadelphia: J. B. Lippincott & Co., 1885. Pp. 741. [Price, $7.50.]

The second edition of this admirable work will be received with great pleasure by those whose toxicological studies have already been aided by its perusal. The present volume contains an entirely new chapter upon blood, another on gelsemium, and additional sections on ptomaines and on arsenic. Two new plates will be observed, one of which belongs to the final chapter. The revision has been most thorough and conscientious.

We commend especially the important section on the examination of blood, which is concise yet exhaustive. The subject of the discrimination between human blood and that of animals is treated of clearly and judiciously.

We have always felt that the title of the book was not sufficiently comprehensive, and this the author acknowledges in his opening sentence, yet he does not think fit to modify it.

Although a work of this magnitude can be properly appreciated only by a special class of students, the general reader will find it a useful book for reference, since the style is so clear and concise, so free from pedantry, that the volume really furnishes interesting reading on every page, a rare quality in a treatise on chemistry.

Dr. Wormley is to be congratulated equally on the improved text of his book and on the possession of such skillful aid in the preparation of the beautiful plates, which add so much to its value.

Diseases of the Spinal Cord. By Byrom Bramwell, M. D., F. R. C. P. (Edin.), Lecturer on the Principles and Practice of Medicine and on Medical Diagnosis in the Extra-academical School of Medicine, Edinburgh, etc. With One Hundred and Three Illustrations. Second Edition. Edinburgh: Young J. Pentland, 1884. Pp. xvi–359.

We have little to add to the many words of commendation which were bestowed upon the first edition of this excellent work. The beautiful lithographs are the main feature of the book; they have been improved upon in the present edition, and some new figures have been added. The plates representing osmic-acid preparations of the spinal cord are especially fine. The text has been put into a more compact form, and more attention is devoted to functional diseases. We note with approval the presence of a chapter on concussion of the cord, containing some useful hints regarding the examination of so-called "railway cases." Pseudo-hypertrophic paralysis is now discussed in the appendix, for the reason, as the author remarks in a foot-note, that this disease may be unattended by visible lesions of the cord. According to this criterion, functional derangements ought also to have been omitted from the body of the work. An improvement has been made in the pathological part of the subject by introducing a short section on pathology under each disease.

In its present form, the book is a most attractive one, and, while it will not be safe for the beginner to rely too much upon the scientific accuracy of the text, the beauty and fidelity of the drawings are enough to entitle the volume to the praise which it has already received. Remembering that the author's intention, as stated in the preface to the first edition, is "to teach by the eye as well as by the ear," the reader must acknowledge that Dr. Bramwell has been signally successful in carrying out this purpose.

BOOKS AND PAMPHLETS RECEIVED.

Clinical Studies on Diseases of the Eye, including those of the Conjunctiva, Cornea, Sclerotic, Iris, and Ciliary Body. By Dr. Ferdinand Ritter von Arlt, Professor of Ophthalmology in Vienna. Translated by Lyman Ware, M. D., Surgeon to the Illinois Charitable Eye and Ear Infirmary, etc. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. 325. [Price, $2.50.]

Lehrbuch der Physiologie für akademische Vorlesungen und zum Selbstudium. Begründet von Rud. Wagner, fortgeführt von Otto Funke, neu herausgegeben von Dr. A. Gruenhagen, Professor der medizin. Physik an der Universität zu Königsberg i. Pr. Siebente, neu bearbeitete Auflage, mit etwa zweihundertundfünfzig in den Text eingedruckten Holzschnitten. Fünfte Lieferung. Hamburg u. Leipzig: Leopold Voss, 1885. Pp. 641 to 683, inclusive; 1 to 112, inclusive.

La Mortalidad de Madrid. Coleccion de Artículos publicados sobre dicho Tema. Por el Doctor D. Gaspar Gordillo Lozano, Ex-alumno Interno por Oposicion de la Facultad de Medicina de Madrid. Madrid: F. Maroto é Hijos, 1885. Pp. 176. [Price, 2 pesetas.]

A System of Practical Medicine. By American Authors. Edited by William Pepper, M. D., LL. D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, assisted by Louis Starr, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Vol. II. General Diseases (continued) and Diseases of the Digestive System. Philadelphia: Lea Brothers & Co., 1885. Pp. 10–19 to 1312, inclusive.

Transactions of the American Gynæcological Society. Vol. 9, for the Year 1884. New York: D. Appleton & Co., 1885. Pp. 408. [Price, $5.]

The Medical Annual and Practitioner's Index: a Yearly Record of Useful Information on Subjects relating to the Medical Profession. 1885. London: Henry Kimpton. Pp. 16a–371.

Endemic Goître or Thyreocele. Being the Thesis for the Degree of Doctor of Medicine of the University of Durham for which the Gold Medal of the Year 1884 was awarded, together with subsequently added Foot-notes and Appendix. By William Robinson, M. D. and M. S. London: J. & A. Churchill, 1885. Pp. vi–66.

Douze cas d'opération de trachélorrhaphie; considérations à propos de cette opération. Par le docteur Vulliet, Chirurgion-adjoint à la Maternité et professeur à la Faculté de médecine de Genève. [Reprinted from the "Archives de tocologie."]

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NEXT WEEK'S COMMITTEE MEETING IN CHICAGO.

On Wednesday of next week there is to be a meeting in Chicago of the American Medical Association's committee on the International Medical Congress "as constituted by resolutions passed at New Orleans"—consisting, that is to say, of the original committee, together with the thirty-eight gentlemen who were added to it by the action taken at New Orleans. We learn that assurances have been received that there will be quite a full attendance, but we have no information in regard to the intention of any of the members of the original committee to be present. We presume, however, that the editor of the "Journal of the American Medical Association" will attend the meeting.

We feel that the occasion will be one of great moment to the profession, and we can only look forward to it with anxiety. The avowed object of the action taken at New Orleans was the practical nullification of the original committee's preliminary organization of the Congress. In consideration of the plenary powers that had been given to the original committee, it has been seriously questioned whether, in accordance with parliamentary usage, it was competent for the Association to undertake to undo its work. This question might be passed over as of little practical consequence if there had been anything plainly reprehensible in the course pursued by the original committee, but there is no contention that such was the case. The reproof sought to be cast upon the original committee was manifestly based upon a feeling of discontent, and that feeling was largely if not wholly of a personal nature. It is true that two matters of principle were put forward in justification of the unusual course proposed, but there has been nothing to show that they really lay at the bottom of the movement. In regard to one of them, indeed—the impropriety of putting the names of new-code men on the list of officers—the insincerity of the objection was at once proved, as we remarked at the time, by the prompt and overwhelming rejection of a proposal that would have righted that wrong.

The other matter of principle put forward was the allegation that the officers proposed for the Congress had been too largely chosen from a narrow section of the country, especially from the cities of Boston, New York, and Philadelphia, whereas the organization ought to be representative of the whole country in a geographical sense. Nothing took place at the meeting, and nothing has occurred since, to convince us that any such feeling is entertained by the great body of the profession. To be sure, its alleged existence was harped upon at New Orleans, but almost every speaker who urged it showed plainly that he felt himself to have been slighted. Certain persons have since endeavored to foment the feeling, but there has been nothing that could be justly construed as bearing witness to any general discontent among the profession. Even if we accept the acts of the American Medical Association in general as truly expressive of the sentiments of the profession—and certainly they are not—we should not lose sight of the fact that the meeting at New Orleans did not adequately represent the Association. From the very nature of things this was necessarily the case; a meeting held in a remote corner of the country must draw its attendance almost wholly from that immediate section, leaving the country at large practically unrepresented. As regards this question, then, we attach no importance whatever to the wild talk that was indulged in at New Orleans. On the contrary, we have a profound confidence in the common-sense of the great body of our profession in the South and in the West. As a body, they are the bone and sinew of our ranks, and among them there are many men whose achievements and whose worth it is a pleasure to us to recognize, and whom we should be glad to see honored in every possible way, including their appointment to prominent positions in the organization of the International Medical Congress. We can readily understand, however, that the original committee felt constrained to make up a list of names that should be as well known as possible to our European brethren. Naturally, the men working in the older section of the country, small as it may be in territorial extent, are better known in Europe than their colleagues, equally able and equally deserving, who live at great distances from the main channels of communication with Europe. That such considerations should have been felt by the original committee to be pertinent and even pressing, we have no doubt is perfectly appreciated and loyally accepted by the great mass of our brethren.

But, even if our impressions should be shown to be erroneous, was it necessary—was it wise—to lay before the world the spectacle of a house divided against itself undertaking to entertain the medical profession of the world? So cautious and conservative an exponent of medical opinion as the "Journal of the American Medical Association" has itself spoken editorially of the action taken at New Orleans as "of questionable propriety," and it has also urged upon the members of the old committee, as an important reason why they should take steps to call a meeting of the enlarged committee, that such a course would be the easiest way of silencing the captious. Since Dr. Davis has committed himself to these positions, and since his leadership in the affairs of the association is unquestioned, we look to see him throw the weight of his great influence in favor of moderation at the Chicago meeting.

If the Washington meeting of the Congress is to be anything more than a sham, everything repugnant to the feelings of our European visitors must be carefully prevented, and they will certainly be too disgusted to come among us if they find that local quarrels and sectional jealousies are to govern the organization in any degree. As foreshadowing the view they are likely to take of such a state of things, we would call attention to the following editorial article, that appeared in the "Lancet" for May 30th:

"At its meeting in 1884, the American Medical Association appointed a committee of seven gentlemen to present an invitation to the International Medical Congress at Copenhagen to hold its next meeting in Washington in 1887. As our readers are aware, this invitation was accepted; and the committee, desiring to advance all the arrangements for the meeting, and believing itself to be empowered to do so, proceeded to nominate the chief officers and to conduct the preliminary negotiations. Unfortunately, it seems that in so doing they have excited certain local jealousies; and at the late meeting of the association in New Orleans their action was discussed and condemned, and a resolution was passed electing a committee, consisting of the seven gentlemen previously appointed and thirty-eight others, 'one from each State and territory,' who should 'proceed at once to review, alter, and amend the action of the present committee as it may deem best.' From the reports of the discussion we gather that some members of the association consider that the appointments in the Congress should be filled up on a geographical basis, each State being considered as a distinct entity to be represented. We trust, however, that the new committee will take a wider and more enlightened view than that, and will make the appointments solely in reference to the merits of the various nominees and the degree to which they possess the confidence of the profession in the United States, as a whole, and in Europe. We may be permitted to assure our American brethren that visitors from Europe will in a large measure judge of the position and character of the profession in the States by the scientific eminence of those whom they choose as their prominent representatives. We trust that all difficulties such as we have hinted at will be wisely and amicably surmounted, and that the meeeing of the Congress in Washington will be as signal in its success as a scientific gathering, and in its display of true cosmopolitan brotherliness, as any previous one."

Kindly as the terms are in which our contemporary puts its views, there is to be read between the lines the plain intimation that Europe will have nothing to do with such a display of discord and place-hunting as it is within the power of the enlarged committee to create. We therefore call upon the Chicago meeting to consider the gravity of the situation—to pause before it makes itself the tool of a handful of malcontents. By pursuing a moderate and conciliatory course the gentlemen who are to assemble in Chicago next Wednesday may earn for themselves the gratitude of the whole profession; by consenting to be led by agitators and soreheads they will insure their own lasting execration. Our trust is firm that they will choose the wiser course.

MINOR PARAGRAPHS.

THE DISINFECTION OF IMPORTED RAGS.

This subject is again before the public, some of the newspapers having hinted rather broadly that a scheme for enriching the owners of a patented process for disinfection is being aided and abetted by Government officials. As we have already announced, the Secretary of the Treasury has revoked all past orders relating to the matter, leaving the disinfection of rags to the discretion of local sanitary officers. The Surgeon-General of the Marine Hospital Service asks, however—very properly—that the prohibition be continued in force at ports where there are no such officers of a satisfactory character. How the Secretary is likely to treat this request, we are not informed. Meantime the rag-men are industriously putting in their negative evidence to the effect that no one ever knew of an instance of the spread of disease through the medium of rags, and urging that, until such a positive instance can be proved, it ought to be taken for granted that rags are incapable of acting as fomites; which reminds us of the answer once made by a Tombs "shyster" to his complaining client, who had been convicted of murder. "Just you let 'em hang you once," said he, "and if I don't make 'em hum!"

DR. PENNY ON PROTECTIVE INFECTION.

We would call attention to the two letters which we publish in this issue, bearing upon the subject of Dr. Eccles's paper on "Immunity in Disease," which recently appeared in our columns. We must express our gratification at the number of communications we have received regarding the matter, a fact which serves to authorize the high estimate which, as our readers may remember, we set upon the article at the time of its appearance. Of the two letters referred to, the one sent us by Dr. Penny, of Galveston, sketches what seems to us a remarkably ingenious theory. So far as we know, it is entirely original, and it marks its author as a thinker of a high order, although he modestly puts it forward only as a "working hypothesis." We trust that some reader who may be fertile in devices may hit upon a way of putting it to the test of experiment.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 16, 1885:

DISEASES.	Week ending June 9.		Week ending June 16.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	0	3	0
Typhoid fever	20	2	14	6
Scarlet fever	76	15	63	13
Cerebro-spinal meningitis	3	4	4	4
Measles	106	11	95	9
Diphtheria	63	22	57	27

The Small-pox Corral on Ward's Island, improvised for the purpose of keeping the passengers from the infected steamships under observation, has given rise to no little contention among the various boards that make up our hydra-headed city government, but thus far we have no information of the conveyance of the disease either to the inmates of the public institutions in the neighborhood or to the people of the city.

The Appropriation for the New York State Board of Health, for the purpose of enabling the board to prosecute the unusual amount of work which it is thought will be thrown upon it during the year, has, we regret to say, failed to meet with the Governor's sanction. As it amounted to only $15,000, its fate seems to furnish a melancholy example of the penny-wise and pound-foolish policy that so often prevails in sanitary matters.

The Cholera in Spain.—During the past week the outbreak has made further progress, and the character of the disease is announced to have been positively established by the finding of Koch's bacillus in the dejecta of the sufferers, as a consequence of which, says the "Medical Times and Gazette, the Spanish Government has withdrawn its prohibition of Dr. Ferrán's protective inoculations, and has again resorted to the use of sanitary cordons.

Cremation in Austria.—It is reported that the Austrian Government has refused to sanction the organization of private cremation societies.

The Death of Dr. Lucius M. Palmer, of Brooklyn, took place on Wednesday last. The deceased was in his sixty-fifth year, and was graduated from the Medical Department of the University of the City of New York. He had practiced for nearly forty years in the locality in which he died.

The Death of Dr. Noel Gueneau de Mussy, of Paris, is announced in the London journals as having taken place on the 2d inst. The deceased was an accomplished physician, well known in French medical literature, and the "British Medical Journal" says that he was the author of much of its recent Paris correspondence.

The Paris Faculty.—The "Progrès médical" states that M. Proust and M. Landouzy have been appointed to the chair of hygiene, succeeding M. Bouchardat.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 7, 1885, to June 13, 1885:*

Fryer, B. E., Major and Surgeon. Ordinary leave of absence extended six months, from July 1, 1885, on surgeon's certificate of disability. S. O. 129, A. G. O., June 6, 1885.

Cleary, P. J. A., Major and Surgeon. The order directing him to change station from Fort Union, N. M., to Fort Lyon, Col., is revoked. S. O. 81, Department of the Missouri, June 8, 1885.

Richard, Charles, Captain and Assistant Surgeon. Granted leave of absence for three days. S. O. 128, A. G. O., June 5, 1885.

Macauley, C. N. B., First Lieutenant and Assistant Surgeon. Relieved from duty at Fort Sisseton, D. T., and ordered for duty at Fort A. Lincoln, D. T. S. O. 61, Department of Dakota, June 5, 1885.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the week ending June 13, 1885.*

Wyman, Walter, Surgeon. To proceed to New York, N. Y., and assume charge of the service, relieving surgeon Sawtelle. June 8, 1885.

Banks, C. E., Passed Assistant Surgeon. Granted leave of absence for thirty days. June 12, 1885.

Society Meetings for the Coming Week:

Monday, *June 22d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Cambridge, Mass., Society for Medical Improvement.

Tuesday, *June 23d:* Buffalo Obstetrical Society (private); Medical Societies of the Counties of Essex (Elizabethtown) and Lewis, N. Y.

Wednesday, *June 24th:* New York Pathological Society; Auburn, N. Y., City Medical Association; Philadelphia County Medical Society (conversational); Berkshire District, Mass., Medical Society (Pittsfield); Kentucky State Medical Society (first day—Crab Orchard).

Thursday, *June 25th:* New York Academy of Medicine (section in Obstetrics and Diseases of Women and Children); Harlem Medical Association of the City of New York; New York Orthopædic Society; Pathological Society of Philadelphia; Kentucky State Medical Society (second day).

Friday, *June 26th:* New York Society of German Physicians; Philadelphia Clinical Society; Philadelphia Laryngological Society; Kentucky State Medical Society (third day).

Saturday, *June 27th:* New York Medical and Surgical Society.

Letters to the Editor.

A THEORY OF THE LIMITATION OF CERTAIN DISEASES TO SINGLE ATTACKS.

Galveston, Texas, *June 7, 1885.*

To the Editor of the New York Medical Journal:

Sir: In your issue of May 23d appears an article, by R. G. Eccles, M. D., Ph. D., of so much merit that I feel constrained to briefly review a few of the arguments in favor of the theory of Dr. D. E. Salmon, and to add to the theories advanced that of Dr. Carmona y Valle, who is now engaged in vaccinating as a protective measure against yellow fever at Vera Cruz.

While the truism remains that all of the theories advanced can not be true, it yet remains to be demonstrated that any one of them is wholly correct. The drift of modern scientific thought lies in the direction of accepting one of these, as the writer suggests, as a working hypothesis. The difficulty of making a selection increases with the study of the literature of the subject—for instance, the theory advanced by Pasteur certainly has had the greatest number of advocates. This theory we find fails when tested by the laws of physiology, for the morphological changes that take place in the body all tend to restore it to the condition precedent to the attack. Nor would the presence of some substance in the body detrimental to the life of the microbe account for subsequent immunity after an attack of anthrax, variola, or yellow fever, for the morphological changes would eventually restore the body to its original condition. Yet it is probable that Pasteur's theory contains the germ of truth. New observations from a different standpoint were needed, and the researches of Dr. Carmona y Valle may furnish these.

Dr. Salmon's theory, that, under the intoxication produced by the presence of the microbia, free oxygen accumulates in the tissues, is controverted by the fact that free oxygen does not exist in the tissues; even in the red corpuscle the oxygen is combined. The atmosphere of the ultimate tissues is carbonic acid and not oxygen. To say that intoxication of the cells of the tissues allows carbonic acid to accumulate would be more in accordance with the laws of parenchymatous respiration as known, and would correspond with the accepted fact that the anaërobic bacteria are more frequently pathogenic than the aërobic, and, further, that the presence of free oxygen has a tendency to destroy their pathogenic virulence.

The theory of Dr. Carmona y Valle may be said to supplement that of Pasteur. He says that, having to examine the urine of a number of persons who had suffered from yellow fever a number of years prior to that time, he found the peculiar microscopic body that he had named *Peronospora lutea* in all these specimens of urine; in one of these persons (then under treatment for some ocular trouble) it had been ten years since the attack of yellow fever. This, he says, demonstrates the fact that the microbia may exist in the body for an indefinite length of time after an attack of yellow fever and without producing morbific phenomena, and, further, that the immunity from subsequent attacks is due to their presence in the body. ("La Escuela de Medicina," Feb., 1882.)

We might, then, accept as a working hypothesis that the first colonies of bacteria, finding a vast quantity of nutritive material, and, under the stimulus of a regular temperature, reproduce with exceeding rapidity, and, after contaminating the fluids of the body with their secretions, perish. The death of these countless myriads of bacteria is in all probability the cause of the febrile paroxysm. We might go a step farther and accept as the second part of this hypothesis the inference that this febrile paroxysm destroys the power of sexual reproduction in those that survive. These, while they would prevent their multiplication so rapidly as to produce subsequent attacks of the disease, would by their presence so alter the chemical condition of the body as to prevent a new invasion from taking place. We find in the aphis that in the spring and fall, when the weather is cool, reproduction is carried on by the sexual method, but in the heat of summer the male sex disappears and reproduction is carried on by what has been called parthenogenesis. Now, in all the micro-organisms whose natural history we are acquainted with, reproduction is carried on by fission and gemmation, with a return at intervals to the sexual type.

It would not be unreasonable, then, to infer that in the febrile paroxysm these micro-organisms lose their power of sexual reproduction, and with it their power of rapid multiplication. Sufficient numbers might still remain to protect the individual, but not to make the individual a focus of infection to others.

This theory is only advanced as a working hypothesis, and is only intended to apply to that class of diseases whose phenomena are usually constant, that have a definite stage of incubation, that culminate in a febrile paroxysm, and of which one attack is usually protective against subsequent attacks.

William Penny, M. D.

SIMULTANEOUS SMALL-POX AND VACCINIA.

Alton, Ill., *June 12, 1885.*

To the Editor of the New York Medical Journal:

Sir: In the learned paper of Dr. Eccles on "Immunity in Disease," he says: "The doctrine of relative immunity which is now well established . . . is of most practical importance . . . and should deter us from vaccinating a person merely because he has been exposed to, or shows symptoms pointing suspiciously toward, small-pox. *Already a dose of virus may have been imbibed, and for the physician to add another, then, is criminal. People must protect themselves in advance of exposure. When they have been exposed, it is too late.*" (The *italics are* mine.) I can give you an instance in which both poisons developed synchronously, not as a solution for a compromise, but as a practical proof that cow-pox controls the small-pox. The case will contradict the finely spun argument of the doctor and show that we are not criminal.

In the spring of 1845 I was called to a family eight miles below Alton, in the American Bottom. The family consisted of the two parents and seven children who were living in two houses of one room each and about twenty yards apart. The oldest son, twenty-three years of age, was taken sick after returning from St. Louis, where he had been to sell a load of corn. I found him broken out with small-pox. The next day I vaccinated the entire family and separated them. I put the young man and a sister about twenty years of age as a nurse in one of the buildings. In the parents and a son of eighteen years the vaccination did not take; nor after repeating in five days. The parents remained well, but the boy of eighteen took confluent small-pox and died in the suppurating stage. Two of the others had varioloid.

In the case of the girl who nursed her brother the vaccination took well. Four days after inoculation I examined the girl's arms, as I was very anxious she should escape the small-pox; she was the only help in the distressed family. The virus was introduced into the deltoid muscle of each arm (always my favorite place) with two insertions into each. Each muscle was much inflamed, and under each insertion was a small round knot. On the fifth day she was in bed with a high fever, and the knots showed the forming of pustules, with a surrounding red areola of two inches in diameter. The next day the whole body was covered with pustules and knots; but on the arms the pustules had not, nor did they afterward pass the boundary of the areola of vaccination. The vaccination pustules of each arm were developed to the same degree as those on the body, and all proved afterward to be varioloid pustules. The next five days the varioloid and the vaccination pocks dried gradually up.

Here the cowpox-developed germ, not poison, to speak scientifically, converted, modified, or changed the small-pox. This ocular demonstration made me a strong advocate of vaccination, with or without small-pox. A similar development must take place often, but unobserved, as rarely a physician comes into such close contact with his patient. At that time this was a rare disease, only known here by name, throwing the people into a panic. I had to supply the bedding, linen, clothing, food, and wood. What I did not myself bring to the house, one neighbor, and only one, supplied, as given to him by others. He laid the dead boy in his coffin, and buried him alone.

Fred. Humbert, M. D., F. C. S.

Proceedings of Societies.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Meeting of May 25, 1885.

The President, Dr. Daniel Lewis, in the Chair.

The Final Report of the Comitia on the Question of Resignation of Membership in the society was read, by which it appeared that ability to resign was sanctioned by the decisions of the State society, and the manner in which it was to be accomplished was provided for in the County society. It appeared, however, that persons continuing to practice in the county after so resigning were liable to the same penalties as those who had never joined the society.

A Collective Investigation regarding Fibrous Pneumonia by the Committee on Hygiene.—Dr. G. A. Seibert read the report. He first referred to the results of his own labors, and those of others in this field, commencing in 1879, and then took up the work of the committee. Over eight hundred cards had been sent out to physicians of New York and Brooklyn, to which eighty-seven answers had been received. Only forty-six practitioners and four hospitals had taken active part in the investigations. These returns showed the exact date of the occurrence of the attack of pneumonia, with the statement whether or not catarrh of the respiratory tract existed at the time the pneumonia began. Seven hundred and sixty-eight cases of primary fibrinous pneumonia had been reported—the largest number of cases ever observed anywhere in one year and in one city for scientific purposes. The distribution of the affection during the different months of the year had been as follows: January, 71; February, 148; March, 103; April, 73; May, 55; June, 37; July, 26; August, 25; September, 53; October, 62; November, 65; December, 78. It would be noticed that winter and spring showed the greater and autumn and summer by far the smaller number of cases. These statements were supported by the statistics of the German and Austrian armies for as many as ten years, and also in European hospitals. Dr. Seibert then exhibited charts which showed the temperature and moisture range for the several months of the year, also for the several days of the month, together with indications of the rapidity and direction of the wind, and the number of cases of fibrinous pneumonia which occurred on each day. A glance at the charts was sufficient to show that here as well as in Europe pneumonia occurred most frequently in the winter and spring, the fewest cases occurring in the summer. The same was true of bronchial catarrh also. The charts showed that the line indicating the degree of humidity ran high, while that indicating the temperature ran low, the two lines approximating each other, and that often the wind had a great velocity on days when the greatest numbers of cases of pneumonia developed.

Summing up the results of their investigations, the author said they had found, first, that the origination of fibrinous pneumonia was greatly favored by certain meteorological conditions, thus explaining the difference in its frequency during the twelve months of the year; second, that low and falling temperature, high and rising humidity, and high winds were each alone capable of exercising this influence; third, that, if all of these weather constituents existed together, we noticed more cases of pneumonia than when one of them was found alone; fourth, that, if the three constituents were found together, pneumonia would be very frequent and very fatal; fifth, that its frequency continued so long as these conditions prevailed; sixth, that the same meteorological influence was found in the origination of catarrh; seventh, that catarrh predisposed to fibrinous pneumonia.

He did not maintain, however, that fibrinous pneumonia was brought on by weather influences alone.

Dr. A. Jacobi said it had struck him that no remarks were necessary where charts were so eloquent. Dr. Seibert had shown that collective investigation was of the greatest value, at least in the ætiology of disease. He trusted the members of the society would pay particular attention to the form of chart employed, because they would probably be called upon to give the results of their observations for use at the next meeting of the International Medical Congress. It appeared that the author had acted on the good old scientific and empirical plan of medical investigation, for it was to be remembered that medicine was an empirical science—science based upon the close observation of facts. Pathological anatomy and the microscope were not able to supplant empirical knowledge derived after the manner of the ancients, by observation of disease. At the present time the attempt was being made to find the causes of all important diseases in the existence of particular bacilli, but the truth was to be arrived at only when pathological anatomy, microscopy, the presence of germs, etc., were supported by clinical observation. Some physicians, in their zealous support of the germ theory of disease, had maintained that pneumonia, being due to the presence of a particular coccus, could not be excited by what was called taking cold; yet persons struck by a draft took a cold, pneumonia developed, and they insisted that the draft was the cause of the disease. Here the people had observed facts, and those physicians who held on a theoretical basis that taking cold could not produce pneumonia would be compelled to accommodate their theory to facts, for facts were greater than theory. If we took into consideration the effect upon the fourteen square feet of skin covering the human body of the conditions of the atmosphere mentioned by the author as being present when the greatest number of cases of pneumonia developed, we need not be surprised. The possible effect of a change of weather upon the human body, especially upon the internal organs, had been well illustrated in a case under his observation, that of a man who had temporary hæmoglobinuria on every exposure to inclement weather. The term "taking cold" was a good one, being expressive, and would probably continue to be used.

Dr. A. G. Caillé had noticed by the charts that the state of the atmosphere had been observed three times a day. He thought once a day would have been sufficient, and would have involved less work. The author had said that he believed a combination of the weather constituents alone was not sufficient to cause fibrinous pneumonia. If he meant thereby that there might be other causes he could agree with him, but if he meant that exposure to cold would never cause fibrinous pneumonia, but only catarrh, he begged to differ with him. He thought it entirely premature to say that the pneumonia coccus must always be present before pneumonia could be developed. He moved a vote of thanks to Dr. Seibert for his work. Carried.

Dr. L. Putzell said that the months during which most cases of fibrinous pneumonia occurred were also the months during which certain other infectious diseases were most prevalent. During the state of weather mentioned, people were likely to be shut up in their houses under conditions most favorable for developing an infectious disease. He thought the testimony of many physicians, based upon clinical observation, was to the effect that fibrinous pneumonia was an infectious disease. The crisis was such as was not present in inflammation due to taking cold. There was no doubt as to the effect of cold upon the mucous membranes, but catarrh did not run the clinical course of pneumonia. Statistics should always be taken with a good deal of allowance.

Dr. Seibert, in closing the discussion, said he had purposely abstained from theorizing on the facts presented. His belief was, however, that the sole influence of the weather in pneumonia was that of causing hyperæmia, which prepared the ground for the pneumonic poison. In erysipelas, for instance, there always existed a previous lesion of the skin.

A Memoir of the late Dr. Louis Elsberg was read by Dr. C. Heitzmann. The speaker regarded Dr. Elsberg as a learned, kind man, who had done something substantial toward advancing medical science, and called him the father of laryngology in America. He spoke of Dr. Elsberg's biological views, etc.

MASSACHUSETTS MEDICAL SOCIETY.

(Concluded from page 672.)

Wednesday's Proceedings.

After reports of various committees had been presented, the reading of papers was resumed.

The Sanitary Aspect of Cremation.—Dr. John O. Marble, of Worcester, read a paper on "Cremation in its Sanitary Aspects." Quoting Mr. Eassie, of the Cremation Society of England, that what to do with the dead transcended every other sanitary problem in its importance, he proposed to demonstrate the peril of earth-burial to the living, and the hygienic advantages of cremation. He briefly reviewed classical and historical allusions to the two customs, but said he could establish precedence for neither. In ancient Greece and Rome both methods had been in use, as they were in parts of Asia and in Japan today. Cremation had fallen into disuse in the fourth century, probably from causes which now had no weight in the consideration of its advantages. The present battle between the torch and the spade began in 1873, with the exhibition at Vienna of samples of the cremating process by Professor Brunetti. Its literature had multiplied in every English-speaking country. The disposal of the dead concerned only the living, and its importance was steadily increasing. The question was, earth-burial, with its apparent perils, defended by a sentiment, or cremation and safety defended by science. In earth-burial every particle of matter surrounding the body was saturated with germs of disease and death, and in cases of yellow fever, cholera, or small-pox these germs were stored up to sprout again at the first disturbance of the grave. Such a decay was of varying rapidity, but was always abhorrent and a menace to the living. He quoted Darwin on the upheaval of mold by earth-worms, and Pasteur to the effect that this mold contained the specific germs which propagated disease, and that they retained their vitality for long periods. To bury the dead was, therefore, but to store up for posterity a horrible crop of pestilence and death. Filthy diseases were propagated by germs, and, if Koch succeeded in proving the comma bacillus to be the *fons et origo* of cholera, there would be hope of bringing that dreaded disease to a period. He quoted Dr. Freire, of Rio de Janeiro, to the effect that cemeteries were nurseries of yellow fever. In diseases of this type the only safety was in recourse to the one certain and practicable germicide, fire. The dangers of inhumation had been discussed before the advent of Christianity, and there was no good reason to claim for it the title of "Christian burial." Numerous cases were cited of infection and death from the reopening of tombs and graves, in both ancient and modern records. Frequent cases of infection from cemeteries through the contamination of drinking-water were also cited. Sir Lyon Playfair contended that the Roman fever was less the product of the Pontine marshes than of the soil of the city, saturated with the remains of dead millions. It was a delusion to suppose that the contact of earth with a dead body rendered it innoxious; numerous authorities were quoted in support of this point, closing with the Earl of Beaconsfield's statement, "The graveyard is an institution prejudicial to the public health. . . . The time has arrived when all cemeteries should be closed and a better method of burial instituted." The general consensus of opinion among sanitarians was adverse to earth-burial, and this opinion was proof that the practice was dangerous. Shakespeare seemed to have been an inspired prophet when he wrote:

"The witching hour when graveyards yawn, and hell itself breathes out contagion on the world."

The danger of earth-burial was almost universally admitted. To abolish intra-mural interment only removed the danger temporarily, and bestowed it upon posterity. Even those who denied this went on to suggest various futile expedients to avert the dangers they averred did not exist.

The author then discussed the contamination of water by earth-burial, quoting authorities, from Hippocrates to Stewart, showing that polluted drinking-water was a most frequent cause of enteric fever and other zymotic diseases. Water had its victims as well as alcohol; there was peril alike in drains and in drams. Impure milk was a recognized cause of typhoid fever, and pure water was as important as clean food in healthful dairies. Enteric fever in some cases was believed to have originated from the milk of cattle that drank near old graveyards. It had been demonstrated that a sandy soil was no barrier to the pollution of wells from this source, and it was probable that dry gravel was no barrier to the entrance of the organisms generated about cess-pools, graveyards, etc., into drinking-water. Until recently even laboratory filters had not been quite effectual in excluding disease microbes. In France, the opening of wells within one hundred yards of a place of burial was forbidden; in some German states the limit is three hundred yards; and a hygienic council in Brussels, in 1852, had put the limit of safety at four hundred yards. This country had no such laws. The "Centennial diarrhœa" of Philadelphia in 1876 was probably largely due to the fact that cemeteries with eighty thousand graves drained into the water-supply of the city.

In demonstrating the perils of earth-burial the cause of cremation was proved, for no other proposed method was so practicable, in this country at least. The exposure of bodies to wild beasts in India, the recourse to the monsters of the Ganges or the sea, embalming, mummifying, or desiccating, the injection of the soluble salts of mercury or other chemical reagents deadly to protoplasmic poisons, the covering of the uncoffined body in the grave with quicklime, and the primitive form of cremation on a pyre in the open air, were all too objectionable to be seriously considered beside the modern method of cremation, where the body was decorously and totally disposed of in an hour or two, with only a few pounds of harmless residuum, and without exhalation or odor. Fire would absolutely destroy every form of disease germ, while no amount of freezing would do it. All other disinfectants were feeble and ineffectual compared with fire. Scientific apparatus had been devised which made cremation safe, speedy, and inoffensive. The recent agitation was resulting in the more general recognition of its merits, and its advocacy was receiving new impetus in all civilized countries. It was the greatest of sanitary reforms, and it would prevail in the near future. The only objection to it not founded on sentiment was that its practice might destroy evidence of certain crimes, but cases of disease and death due to earth-burial were far more numerous than those of crimes that cremation could conceal, and thus the practice might be justified by the plea of the greatest good to the greatest number. The weightier argument for cremation was the sanitary one, but its bar to the resurrectionist, its avoidance of the much-feared burial alive, and the reduction of necessary expense, might be cited in its defense. In closing, Dr. Marble quoted Mr. Beugless: "Instead, then, of thrusting our loved ones who have departed this life into the gloomy grave, there to fester in loathsome putrefaction, and thence to come forth in ghastly forms of dreaded disease, let us reverently, decorously, and expeditiously translate them by means of the all-purifying fire into the elements of all new and beauteous life. So shall our fair land become, indeed, as it should be, the land of the living, and not the valley of the shadow of death."

The Influence of Ovariotomy on Surgery.—Dr. John Homans, of Boston, began in a paper on this subject with a general review of the old distinction between physician and surgeon, and the advances that had been made in special courses of instruction. Among the branches of practical surgery none had made greater strides, nor been more fascinating in its performance, than abdominal surgery. Twenty-five or thirty years ago the interior of the abdominal cavity, except to an occasional ovariotomist or to the performer of Cæsarean section, had been a *terra incognita*, and not only unknown but feared and dreaded. The occurrence of stabs in the abdomen, letting out the intestines, and followed by recovery, had taught surgeons nothing in regard to the harmlessness of simple incision of the peritonæum. More severe injuries, caused by stakes and pitchforks penetrating the abdomen, had only served to cause the instruments of these wounds to be preserved in museums, and the patients to be exhibited as surgical curiosities. No one had seen and acted on the evident truth that a simple incised wound of the abdominal wall was almost innocuous. This dread of the peritonæum had been caused by the results of delayed kelotomy, or by seeing peritonitis and death follow a wound of the peritonæum made in a vaginal surgical operation. After mentioning the experience of Dr. Gilman Kimball, of Lowell, Dr. Burnham, of Lowell, Dr. Atlee, of Pennsylvania, and Dr. Peaslee, of New York, the author gave an account of Sir Spencer Wells's work, and also that of Mr. Charles Clay.

The first operation which followed the removal of ovarian tumors was the removal of fibroid tumors of the uterus. This operation was only to be done in exceptional instances, and its success would probably never equal that of ovariotomy. When it was found that wounds of the intestines made during an ovariotomy often united when carefully sewn together, the natural inference was drawn that intentional wounds of the bowel could also be healed, and this inference had been acted on, and resection and suture of the intestine for the cure of fæcal fistula was successfully done. Within the last eighteen months two cases of artificial anus had been cured by this operation by Dr. Charles B. Porter, at the Massachusetts General Hospital.

Who did not remember some dreadful sufferer with an intestinal fistula following a strangulated hernia, without control over his offensive fæcal emanations, solid, liquid, or gaseous? To-day ovariotomy had rendered possible an operation by which this sufferer could be made completely well again.

Laparotomy was done for operations likely to be successful often or seldom. By means of it the spleen had been removed, cancers of the stomach and intestines had been cut out, gall-stones had been removed from the gall-bladder, and many more operations of a like nature had been done. The pain and discomfort from floating kidneys had been relieved by sewing the kidney to the abdominal parietes and fixing it in place.

Removal of the ovaries for hysteria, for insanity (Battey's operation), and for the cure of painful menstruation had also been done. The sphere of the last operation should be closely and carefully limited, but in certain cases it was a proper proceeding. Removal of the uterine appendages to bring about atrophy of uterine growths was very legitimate and promised well. Simple laparotomy, properly done, in a healthy subject, had no mortality, or perhaps a very small percentage, and was practically innocuous. All of these advances in abdominal surgery, all of these triumphs and discoveries in an unknown region of the body, had been brought about by ovariotomy. A list of all the operations born of ovariotomy would be long and tedious. A few of them were: Enucleation of the entire uterus, *per vaginam*, for cancer of the body of the organ; removal of the spleen for cystic disease; removal of the gall-bladder, cholecystotomy, hepatotomy for abscess and for hydatids; nephrectomy for calculous pyelitis, for cancer, or for tubercle; nephrotomy for abscess or for purposes of exploration; and radical operations for the cure of hernia by sewing together the pillars of the ring and the sides of the sac. Laparotomy had also been successfully done for pelvic abscess, splenic abscess, acute and chronic peritonitis, hydatids of the peritonæum, and extra-uterine gestation, and lately Professor Loreta, of Bologna, had operated successfully upon an aneurysm of the superior mesenteric artery by this method.

The author's laparotomies numbered two hundred and seven, including two hundred for the removal of cystic ovaries, several of the removal of the ovaries and tubes for the cure of threatened or actual insanity, a very remarkable case of removal of a fibroid tumor of the abdominal wall and the peritonæum, and other laparotomies for various purposes.

The history of a case was given where an ovarian cyst was supposed to exist. An exploratory incision (under spray) was made, and it was found that no cyst was present, but that it was a case of tubercular peritonitis. The wound healed kindly and the patient had gained in flesh and color, and was now contemplating matrimony. The author concluded with the statement that all successful operations within the abdominal cavity owed their inception and execution to the knowledge gained by the ovariotomist and furnished by him to the profession.

The Diagnosis and Treatment of Occipito-posterior Positions was the title of a paper by Dr. William L. Richardson, of Boston. The points made in the paper were the necessity of early making out the position as well as the presentation in every case; the great advantage to be gained from the practice of external palpation of the abdomen; in cases of posterior positions of the occiput, the importance of an early recognition of any lack of flexion which would be liable to prevent the subsequent forward occipital rotation; the danger, if the forceps was applied to an extended head so situated, of still further increasing the extension; and the ease with which traction, applied on the occiput by means of the forceps reversed, not only corrected the lack of flexion, but also facilitated the forward rotation of the occiput and the speedy and successful termination of the labor. The paper was based on the study of nearly a thousand cases, in which the head had entered the pelvis in the right oblique diameter in ninety-eight per cent.; and the reader dwelt especially on the ease with which the position could be made out by external palpation, even at a very early stage of the labor. The diagnosis of a posterior position of the occiput having thus been detected, it was the physician's duty to watch the case carefully so as to rectify any lack of proper flexion early, for, if the head was perfectly flexed, the occiput would, when it reached the resistance offered by the lower pelvic strait, inevitably rotate forward. The early detection of a lack of flexion enabled the practitioner to produce the flexion and so allow the head to rotate into a forward occipital presentation.

The Annual Discourse was given by Dr. Franklin K. Paddock, of Pittsfield. His subject was the " The Treatment of Wounds." In opening, he referred to the fact, often overlooked, of the natural tendency of wounds to heal; and then he passed to a consideration of the antiseptic treatment of wounds.

At one o'clock the annual dinner was served in the Skating Rink, about nine hundred members being present. After-dinner speeches were made by Dr. Robert Amory, the anniversary chairman; Dr. Homans, Dr. Walcott, Dr. Roosa, of New York, Dr. H. W. Williams, Mayor O'Brien, the Hon. George Marden, the Hon. Charles Gwinnell, and others, and a letter of regret was read from Governor Robinson.

ILLINOIS STATE MEDICAL SOCIETY.

(Continued from page 676).

Tracheotomy.—Dr. J. P. Mathews briefly reported a case of tracheotomy in an adult, for recurrent laryngitis, and showed the patient.

The subject was discussed by Dr. Prewitt, Dr. Ingals, Dr. Waxham, and the author of the paper.

Too Frequent Infant Feeding and a Protest against the Use of One Cow's Milk was the title of a paper read by Dr. A. E. Hoadley, of Chicago, who said that, although the intervals of feeding babies should be as long as possible, to give them time to digest the previous meal, they were usually fed every time they cried. Regarding the use of milk from one cow, he cited two typical cases in which a change was made and each time the baby recovered.

The paper was discussed by Dr. H. T. Byford, Dr. Middlekamp, Dr. Mileham, and Dr. Waxham.

Traumatic Tetanus.—Dr. C. Truesdale, of Rock Island, of the special committee on this subject, reported two cases.

A case was also reported by Dr. Craig.

Dr. Truesdale stated that prompt and efficient treatment was necessary in these cases, and that the remedies should be pushed until their effects were thoroughly manifested. This must be done for at least five or six days before recovery was to be hoped for.

The Report of the Special Committee on Insanity was then read by Dr. R. J. Patterson, of Batavia. In presenting his paper, he stated that only one half of the hundred thousand people who are insane were treated in asylums for the insane. He believed insanity was increasing, and that it might be prevented to some extent by instructing people as to the evils of marrying with those of close consanguinity. Not sufficient attention had been devoted to the home treatment of patients with such mental diseases as were amenable to treatment. In cases where the insane were noisy they might be sent to an asylum. In the early restorative treatment of the insane there were to be noted three points of primary importance: 1. Rest and sleep, little physical exercise being taken. 2. Careful and nutritious feeding. 3. Tonics. Home treatment often failed because patients and physicians did not understand what was needful. It might have to be continued for from three to six or eight months before the patient recovered. An average of three hours of natural sleep in twenty-four was worth more than eight hours of chloral sleep. Opium had fallen into disuse except in melancholia. It might be given in small doses two or three times a day, but the habit of giving opium should be avoided. It was a temporary expedient, but not so valuable as other hypnotic remedies. Hyoscyamine was less safe, and was disliked by patients for its after-effects, such as aphonia, dizziness, dryness of the throat, etc. A sixteenth of a grain of Merck's hyoscyamine might, however, be given at night with beneficial results. Egg-nog, in mild puerperal mania, was beneficial, but hot milk was equally good sometimes. Conium was valuable in motor and maniacal excitement. Paraldehyde was as safe as chloral, and safer in diseases of the heart, but his experience with it had not been large. It was of no value as a pain-subduer. Given in doses of from 30 to 40 minims, it was usually followed by restful sleep. Its taste was worse than that of chloral. It had no advantage over chloral except that there was less danger of its producing vaso-motor paralysis. Chloral hydrate was the best single remedy for insomnia, but it was not to be given during the day, while bromide of potassium in thirty-grain doses should be given every six hours during the day, to precede the chloral; but hypnotics were temporary expedients only. Improved general nutrition should be followed by mental improvement. Quinine, iron, and maltine were the most reliable tonics; strychnine might be added where the vaso-motor forces were low. Maltine was useful also as a vehicle for other remedies. Skillful feeding was of primary importance.

Alcohol as a Therapeutic Agent.—The report of the special committee on this subject was read by Dr. M. F. Bassett, of Quincy.

It was discussed by Dr. Davis, Dr. Cook, and Dr. T. H. Worrall, of Bloomington.

How the Vitality of a Seed is preserved was the title of a paper by Dr. H. Judd, of Galesburg, of the Special Committee on Physiology. The "dormant-vitality theorists," he said, constantly pointed to the seed as furnishing evidence of a "mysterious power" inclosed within its tiny shell, which might there remain an indefinite length of time, and which man could not explain. Of course, there were phenomena occurring without number beyond the present understanding of scientific observers, but, because we did not at once comprehend them, should they be pronounced any more mysterious than the chemical changes in the laboratory, or the movements of a mechanism dependent on chemical changes, which up to a certain point we did explain? It became necessary at the outset that something definite be determined upon as to the meaning of vitality. This had been rather a bad word for science. Dictionaries of scientific terms gravely attempted to define it by saying that it was a force controlling the manifestations and properties of organized bodies, and distinguishing them from inorganic matter, some of them following with, "We know nothing of this principle, except as a force in connection with organization." Now, we would be pleased to learn what we did know of the force electricity beyond what we were able to observe in its generation by chemical and physical means, along with its action on matter generally. What did we know of heat, light, and gravity except through their manifestations on matter generally? But the vital principle, said the dictionary man, was the crucial test that separated the organic from the inorganic world. Here, then, he would have us believe that vitality was located; it resided in the organic world alone; it expended its power there; there were to be observed its phenomena. All that was inorganic must be excluded—a great step toward simplifying our investigation, a sort of diagnosis by exclusion. Nine hundred and ninety-nine thousandths of the earth's matter, being inorganic, belonged to the impossibles of this case, and need not be considered. Leaving them, we might begin our investigation of the other hundred thousandth at the top, with the perfection of organized beings, man. A grain of wheat was both fruit and seed, and might be arranged as follows:

Fruit coats or Pericarp.	Outer fruit coat.	Exocarp.
	Middle fruit coat.	Epidermis, or Mesocarp.
	Inner fruit coat.	Endocarp.
Peripheral circulation.	Vascular membrane, with frequent inosculation of vessels.	
Seed coats.	External seed coat (Testa).	
	Inner seed coat (Endopleura).	
Contents of seed coats.	A layer of cells filled with gluten and nitrogenous matter—perisperm. Large cells filled with starch—endosperm.	
Central circulation.	Vessels at center of grain more numerous at groove, and running from between starch-cells to germ (spiral vessels).	
Germ.	Germ membrane.	
	Germ	Oil cells.
		Nitrogenous matter, etc.

Was it not a clear and logical deduction from the analogies and facts offered that the dormant state of a seed was like the hibernating state of an animal, in which, while it was not so active as when started into growth, it did not rest completely, but went on consuming its store of food; and, if not planted before this store was consumed, must not the germ die?

(To be concluded.)

CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Meeting of February 21, 1885.

Dr. M. J. Roberts, Chairman.

Adjourned Discussion on Phthisis. — Dr. Stephen S. Burt thought that the question of heredity in phthisis was still an open one. While he believed that it was most apt to occur in the offspring of broken-down individuals, he recognized the value of statistics that traced the disease through a paternal or maternal ancestry; but he still held that, if a parent were syphilitic or otherwise broken down in health, the issue would be fully as apt to exhibit phthisical features as if there were plainly marked phthisis in the family history.

He could not speak from a pathological standpoint as well as from a clinical, but it was his conviction, contrary to some of the teachings of the present day, that many cases of phthisis developed from an unresolved pneumonia, as to his mind physical signs indicated it. Whether or not tubercles were present prior to the softening of the lung tissue he could not say, because, as already indicated, there were usually no distinctive signs of disseminated tubercles. In a number of these instances tubercles had been found after death. In one he had seen generalized tuberculosis, but the chief deposits were in the peritonæum and brain, and he might also say that he knew of no case of unresolved pneumonia, with the formation of cavities, in which tubercle had not been found after death.

Finding of the bacillus in suspected or doubtful sputa he held to be a point of great diagnostic value in the pre-cavernous stage of phthisis; after cavities were formed, the auscultatory signs were usually sufficient.

Dr. A. H. Smith said that regarding the question of heredity we must admit that something was handed down from the parent to the child which predisposed to this disease. This something was not always dependent upon the condition of the parent at the birth of the child. We might remember families of children where at the birth of the eldest the parents were seemingly healthy, but where, when the youngest were born, one or the other of the parents had developed tuberculous disease, and where all of these children, without exception, at the ages of eighteen or twenty succumbed to phthisis. Also we could remember people who had lived to the age of from twenty to thirty in perfect health, but in whom even the laity detected a predisposition, and they were said to be marked and finally did succumb. The speaker thought that something more than an impaired constitution was transmitted in these cases.

He agreed with Dr. Satterthwaite in his main classification, but would include among the varieties of phthisis which were not tuberculous also that variety which occurred in the terminal stages of diabetes. He considered this variety due to the irritation of the abnormal blood acting through a long time and setting up numerous foci of pneumonia. This view was upheld by the fact that in these cases tubercles were not commonly found in other parts; also by the fact that in most of them an hereditary tendency was not present.

In regard to ætiology, it appeared to him that the original cause of tuberculosis was most probably a little body which, floating in the blood, occasioned minute capillary emboli, and which lodged in the lung most commonly because of the delicate structure of the capillary blood-vessels in that organ. He did not refer to the capillaries of the functional supply of the lung, but to those of its nutritive supply—the capillaries which terminated the bronchial arteries and veins. These emboli might be aggregations of leucocytes or other material. That the condition was primarily one of embolism seemed probable from the fact that it occurred also from septic infection where we knew that emboli were its cause.

In treatment we should take into consideration the fact that phthisis most commonly attacked the apices of the lung first or the part of the thorax where its movements were the most restrained. A French writer had many years ago recommended the playing of a wind instrument by those who had hereditary tendencies toward consumption, in order to expand the upper part of the chest and to equalize its pressure. The writer cited a case in which to one among six brothers, five of whom had succumbed to tuberculous disease, he had recommended this practice. This patient was at the time of writing alive, at an age much beyond that of the five others at the time of death.

In some cases of rapid phthisis, life had been prolonged by the administration of oxygen. The temperature had fallen, the respiration had become less frequent, and the physical signs had improved. The speaker had seen also two cases of abrupt and rapid improvement from rectal alimentation. Four to five years had elapsed since the patients had been supposed to be in a dying condition. They had continued to hold their own, and were, in fact, much better than when they were subjected to the treatment. Though it was continued only for a short time, it appeared to initiate a turning-point in their disease. We should in these cases in every way try to improve the general health and hæmatosis.

The bearing of most modern pathology would lead us to look for some disinfectant which would sterilize the lungs. The present problem appeared to be how to kill the bacillus without at the same time killing our patient as well. It was an interesting question as to how far the fluids of the body might be charged with the chloride of mercury without morbid symptoms. As bearing on this point, he would state that it had been found that one part in thirty thousand would sterilize any fluids prepared for the propagation of bacteria, and it had been questioned whether we could not approach this strength in the human body. By means of small, frequently repeated doses, one third to one half a grain had been taken in the twenty-four hours for considerable periods without ptyalism and without gastric or intestinal disorders.

Since the last meeting the speaker had had a chance to make a further trial of intra-pulmonary injections, and thus far they appeared to have had a favorable effect. The patient was a colored man in the Presbyterian Hospital, who had been under observation for eight weeks. His weight had been taken every week, and his temperature, with the condition of his sputa, had been observed during a considerable time previous to the commencement of the injections. Five minims of Lugol's solution, diluted with five times its quantity of water, were used. Five minims of this dilution, increased gradually to eight and nine minims, were injected every three hours. The patient tasted the iodine the moment he coughed after the injection. The treatment had been continued two weeks, and his weight had increased three pounds and a quarter. Excepting the injections, his treatment had been the same as previously. The patient's sputa had also become less purulent and more watery, and they were expectorated with greater ease.

Dr. Satterthwaite asked whether the injections were made into a cavity.

Dr. Smith replied that the needle was plunged to the depth of about an inch, but whether it entered a cavity he could not say.

Dr. J. M. W. Kitchen, alluding to intra-pulmonary injections, said that in tuberculous disease irritants must do harm, and, in fact, too many irritating agencies were already present. He would like a comparison of the results following the inhalation of medicated sprays with the results of intra-pulmonary injections. The former should always be used in phthisis, for they were competent to hold the bronchial element of phthisis under control. Such inhalations might be merely cleansing, or sedative, or astringent, according to indications. He preferred some mild astringent, to which he added a few drops of ipecacuanha and a few drops of Hoffman's anodyne. The speaker thought that the profession did not give enough attention to the prevention of this disease. There was great public need of a thoroughly equipped educational institution where weakly children could be properly developed. Good schools would not take a delicate child. The family physician should also be on the alert and warn people with phthisical tendencies against the danger of denutrition. Sometimes the timely administration of a simple tonic would save such persons from the disease.

But we should go a step farther back and remember that the radical preventive treatment lay in the direction of reproduction. It was a topic for society at large and for the Government, for no individual had a right morally, and should have no legal right, to encumber the community with unhealthy progeny.

To refer back to the palliative treatment of phthisis, he had found cocaine of great value in laryngitis. He knew of patients who would rather starve than attempt to swallow, so great was the pain. This was relieved by a brush application of the cocaine solution.

Dr. ——— said that if benefit was to be obtained from a change of climate, an early diagnosis was all-important. While practicing in Colorado he had seen the importance of both observing and realizing the vital necessity for the early recognition of this disease. Many lives were brought to an unhappy end because the patients were sent away too late in the disease. A well-known clinicist in this city frequently made mistakes in this respect, and his patients anticipated benefit where none should have been expected. He had in mind also the greater success which was attained by another well-known clinicist in a neighboring city, who sent his patients early to Colorado.

In this climate he had noted a peculiarity in the hereditary tendencies among the offspring of consumptives. It was chiefly in the direction of tuberculous meningitis, which carried off many infants.

Perhaps the good results from the Colorado climate were due to its antiseptic character. Bullet-wounds might be treated there without suppuration. This peculiarity of the climate might explain why the natives had such immunity from phthisis.

Dr. G. H. Fox stated that he had seen little to warrant him in regarding any affection of the skin as tuberculous, though, from a study of our recent dermatological literature, it might be gathered that certain conditions of the skin were in some way related to pulmonary phthisis. He recalled one case where, in an ulcer of the lip, a deposit had been found that resembled the deposits of tubercular phthisis, and similarly an ulcer of the ear exhibited the same characteristics. Friedländer had held that lupus was tuberculosis of the skin, but this opinion was not generally sustained until the bacillus of tuberculosis was found in lupus. Previously the diagnosis had been based by Friedländer on the presence of giant-cells in the morbid tissue, but, when it was found that the gummatous tumors of syphilis contained similar bodies, they ceased to be regarded as pathognomonic of tubercle. The facts that lupus was common in scrofulous subjects, and that scrofula and tubercle were so closely allied, were favorable to the tuberculous theory of lupus. Still, as Koch's theory had not been confirmed by many observers, and the lupus nodules had often been found to exhibit no bacilli, the whole subject must still be left *sub judice.*

Dr. G. R. Elliot, in speaking of the view that pulmonary tuberculosis was the sequel to pneumonia, said he did not think that the ingrafting of acute miliary tuberculosis upon a pneumonic exudation which had failed to be absorbed was any proof of the tubercular nature of the pneumonia. There were, however, in these cases certain peculiar clinical phenomena. In his experience, the pneumonic symptoms would apparently subside, and then, of a sudden, a sharp rise of temperature would take place, with an increased frequency of the pulse and respiration. If death occurred at that time, miliary tubercles would be found in the lungs; they would give evidence of recent deposition, and the pneumonia about them would show signs of recent date. Referring to the negative results which some observers had obtained after the injection of the material from miliary nodules, he advanced the opinion that such miliary bodies might not be truly tubercular.

Dr. Burt, in reply, stated that he had not found the diagnosis of tuberculosis after pneumonia so easy as the previous speaker had represented it to be. He had seen a number of instances in which there was no sudden rise of temperature, or increase of dyspnœa, or of the pulse, and the termination was a surprise to all. Such a case had occurred in Bellevue Hospital, and had been reported by Dr. H. F. Walker.

Dr. William H. Porter, speaking in regard to the advisability of exercising the chest by means of inhalers and the thoracic gymnastics recommended by Dr. H. G. Davis, said that, from a pathological standpoint, and taking into consideration the fact that in tuberculous tissue there was always a tendency to liquefaction and the formation of cavities, it was in accordance with physiological laws to restrict the motions of the chest on the one hand, and on the other hand to stimulate the circulation to increased activity.

Dr. T. E. Satterthwaite said that Nature met these wants usually by pinning down the diseased apices by thickening of the pleura and a fibrinous infiltration around the cavities, and in this way she sometimes effected a cure. Good results, therefore, often followed where the diseased tissue was bound down by adhesive plaster. Certainly as long as the disease was plainly progressive the mildest form of exercise was in order. Undue exercise, especially in the line of overdistension of the diseased tissue, invited hæmorrhage.

Dr. Kitchen stated that he knew of a corset that had been devised for the purpose referred to by the previous speaker, but, as it limited the lower part of the chest, it was harmful. The lower part of the lungs should have the fullest freedom if phthisis was to be treated successfully. The corset should be discarded entirely.

The Chairman proposed a new treatment for tuberculous inflammations of joints. It was maintained that most chronic inflammations of joints were tubercular, attacking the epiphyses particularly. If such pathological conclusions were to be depended upon, the proposed method would have a very noteworthy diagnostic importance. The instrument had been previously described.

Dr. Van Schaick presented a specimen of tuberculosis of the testicle which he had removed, post mortem, one year ago at the French Hospital. The patient had complained of hardening with a diminution in the size of the testicle; he said that he appeared to be losing it. There was but very little pain. By the rectum, the vesiculæ seminales were found to be a good deal enlarged and thickened. The lungs were examined, and it was thought that there was tuberculous disease of the apex. Tubercle of the testicle was also then diagnosticated. Three months after, the patient re-entered the hospital with general tuberculosis, of which he died at the end of two months. At the autopsy the cord only was not examined, and every other organ was found to be tubercular. Tubercles were in the bladder, and extending up the ureters into the pelves of the kidneys. The one testicle was, as seen, entirely softened and broken down, while the other consisted of a white fibrous mass. The diagnosis was made upon the hardening and contraction of the testicle, the absence of any previous disease and of pain, with the enlargement of the vesiculæ seminales, and the general tuberculosis of the individual.

Tuberculosis of the Genito-urinary Tract.—Dr. H. G. Lyttle read a paper on this subject. [See page 685.]

Dr. W. O. Moore said that tuberculosis affected the eye: 1. As a primary pathological lesion. 2. As tuberculous degeneration after inoculation with caseous matter. 3. As tuberculosis in the choroid secondary to acute miliary tuberculosis.

As a Primary Pathological Lesion.—He had seen three such cases, one a child ten years old, in whom tuberculous ulceration occurred near the margin of the right upper lid, which went on to destruction of part of the lid, but finally healed, leaving a deep cicatrix. The ulceration was sluggish, and yielded to treatment slowly. The mother was poor and in bad health, though there was no trace of phthisis. The child took cod-liver oil, and the ulcer was washed daily with mercuric bichloride, 1 to 800. Koch's bacillus was found in the material discharged. This form was rare, but that of the ocular conjunctiva was more rare.

He had also seen two cases of tubercular degeneration of the iris and ciliary body. In each case destruction of the globe ensued, and the patient died with tubercular meningitis. The iris was the most common seat for tuberculous deposits. Haab had reported eleven cases: conjunctiva of the lid, six; iris, four; ocular conjunctiva and choroid, one. Infiltration of the choroid with tubercles not miliary was very rare, though Gowers and Hirschberg had each reported one. Abadie had reported a case of tuberculous infiltration of the lachrymal glands where, on removal of the glands, the bacillus of Koch was found. The patient made a good recovery. Such a case he (the speaker) had under observation where the condition probably existed, though the diagnosis was still in dispute.

Tuberculous Degeneration after Inoculation with Caseous Material.—Hirschberg had enucleated an eye, and, finding in it caseous degeneration, introduced the matter into the anterior chamber of rabbits' eyes, and in from twenty-two to thirty-nine days an eruption of tubercle in the irides was produced. Samelsohn, of Cologne, in 1878 first demonstrated the fact. Others had injected the blood of tuberculous patients with the same results.

Tubercle in the Choroid Secondary to Acute Miliary Tuberculosis.—Litten had found, in fifty-two cases of acute miliary tuberculosis, tubercles in the choroid in thirty-nine, of the size of $\frac{1}{1800}$ to $\frac{1}{4500}$ of an inch in diameter. They were mostly found in the posterior part of the fundus, appearing as yellowish white spots, isolated or occasionally confluent, and on the choroid, as shown by the retinal vessels passing over them. Vision was scarcely ever impaired by their presence. They were first seen in the living subject by von Graefe, although Manz had frequently seen them at post-mortems previously. They had been seen as early as four months before death. He had seen only one case of tubercle of the choroid in the living subject, and that through the kindness of Dr. G. R. Cutter. The patient presented the yellowish nodules in the choroidal tissue.

Recently he had examined three cases of tuberculosis, one chronic and two acute miliary. In none did choroidal tubercle exist, although a post-mortem in each instance showed general tuberculosis. In a case of acute miliary tuberculosis the choroid of one eye presented during life peculiar changes which were thought to be tuberculous, but, on post-mortem examination made by Dr. George L. Peabody (through whose kindness the patient was seen), what appeared during life to be choroidal tubercle proved, after close scrutiny, to be patches of anæmia of the choroid, although miliary tubercles were found in most of the organs. Tubercle in the choroid was very rarely observed during life, but, when seen, its presence justified the diagnosis of general tuberculosis more positively than any other symptom.

Unusual Forms of Phthisis.—A paper on this subject was read by Dr. J. K. Crook. [See page 687.]

Intra-Pulmonary Injections, with an Account of Two Cases.—Dr. W. C. Phillips gave an account of two cases in which he had used intra-pulmonary injections. [See page 688.]

Dr. Satterthwaite closed the discussion by enumerating certain axioms that to his mind could be drawn from the subject of phthisis, as it stood before us to-day:

1. Tuberculosis was a disease most frequently associated with a phthisical ancestry; in such families the individual selected for the attack was one deficient in physical vigor; but phthisis might be acquired, and those were especially liable who had a defective constitution.

2. Even with a predisposition to phthisis, proper precautions might often be successfully taken; or, even if the disease had once established itself, we had abundant proof that it might in some cases be arrested and subdued.

3. In the great majority of cases the evidence at hand appeared to show that tubercle and phthisis were one and the same; this view had the support of most excellent authority in all parts of the world.

4. Tubercle was an inflammatory deposit of a fibroid nature; the exciting causes were minute molecules of an irritating character that entered the tissues through various media. Tubercular products were usually disintegrate, as in catarrhal phthisis, but sometimes they were capable of organization, as in fibrous phthisis.

5. Sometimes cavities might be produced by non-tubercular agencies; for example, in gangrene of the lungs, of which he had seen two examples during the past year. Consequent to the pneumonia following measles, there were cavities without tubercles. Syphilis also was competent to produce cavities where the gummy deposits softened and were expectorated. It was very rare for an ordinary lobar or lobular pneumonia to terminate in phthisis. He would except, perhaps, the pneumonias of the colored race, which might possibly be examples of such conversion. Other conditions might give rise to cavities.

The discovery of the bacillus, apart from its causal relation to phthisis, appeared to be of value from a diagnostic point of view, and especially in the precavernous stage of phthisis.

7. Intra-pulmonary injections, if they had not yet proved themselves of curative value in phthisis, certainly did little harm, and in some cases ameliorated the symptoms. These remarks applied to cavities and not to consolidated tissues.

8. Those who believed that phthisis was contagious had not yet produced sufficient evidence to show that contagion played as important a rôle as heredity.

Dermoid Cyst of the Ovary.—Dr. Burt then presented a dermoid cyst which he had secured post mortem. The history was as follows: Mrs. G., aged thirty, had been married eight years; never had been pregnant, had never menstruated regularly, and had suffered a good deal with dysmenorrhœa. Her physician saw her first in June of 1875, when he found a tumor in the right side of the abdominal cavity low down, and extending diagonally in the median line. In July there was a purulent discharge, and some hair came away with it, which, when unrolled, measured eighteen inches in length. This discharge of pus continued, though in diminished quantity, for nearly a year, and contained from time to time bits of hair. The tumor decreased in size, and the patient improved so that she was able to go about. She was, however, taken suddenly with pain in the abdomen, weak and feeble pulse, vomiting, and diarrhœa. Pus, shreds of membrane, and black fœtid material, together with another lock of hair, were passed from the abdomen through the upper part of the posterior wall of the vagina, and the patient finally died of peritonitis. Upon opening the abdominal cavity, a large cyst of the right ovary was found containing teeth, bone, hair, and pus. The cyst communicated with the peritoneal cavity and thence with the vagina. There were old localized adhesions and thickening of the peritonæum, besides an extensive and considerable exudation of fibrin, pus, and serum from recent inflammation of the peritonæum. The specimen presented was a part of the cyst, together with a well-formed tooth and its alveolar process, and a lock of hair attached to a portion of the wall of the tumor.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of December 16, 1884.

The President, Dr. William M. Polk, in the Chair.

Hysterectomy for Uterine Fibroids.—Dr. W. T. Lusk presented a large fibroid tumor, together with a number of smaller ones, which had been removed, with the uterus, from a patient who gave the following history: She was thirty-eight years of age, and entered the hospital in March last, suffering from ascites and some form of abdominal tumor. The ascites was so great that it was impossible to determine the exact nature of the tumor. The patient was greatly reduced in flesh and in general health, and was passing only from one to five ounces of urine daily. It seemed hardly possible that she could live more than a few weeks. Dr. Lusk removed a portion of the ascitic fluid, after which he was able to make out what he supposed to be a large fibroid of the uterus, although he was in some doubt whether the case might not be one of abdominal pregnancy. After the patient had been under observation for some time he became convinced that it was one of multiple fibroids of the uterus, there being one large tumor and a number of smaller ones attached by pedicles. Mr. Tait, who had been asked to examine the patient, had summarily rejected the idea of uterine fibroma, and, when asked what he thought the condition was, had characteristically replied, "Cut the patient open and find out." Several other gentlemen, however, who saw the patient a day or two later, coincided in Dr. Lusk's diagnosis. Dr. Lusk was surprised, on returning from the country after the summer, to learn that the patient was still alive, and had even improved somewhat in condition. The house physician had been giving her acetate of potassium and digitalis, and so long as these medicines were continued the urine was secreted in normal quantity, but as soon as they were withdrawn it decreased in amount and her condition grew worse. Her desire to go home was acceded to soon after Dr. Lusk's return to the city, but she had scarcely been absent twenty-four hours when the dropsy largely increased in amount, and she returned and was again given acetate of potassium and digitalis, with the effect of increasing the urinary secretion. The urine contained albumin. It was evident that the patient could not live much longer without interference, and yet the kidney complication and ascites made recovery after an operation extremely doubtful. It was decided, however, to make an abdominal section, Dr. Lusk's idea being that if only a single fibroid was removed it would tend to make the patient relatively comfortable. The operation was performed about seven weeks ago. When the peritonæum was opened, about a gallon of ascitic fluid escaped. It was the operator's intention to remove the fibroids one after another, but they proved to be very numerous, and, accordingly, he turned out the entire mass, threw a powerful, large-sized rubber cord around its pedicle and cut it away.

The only point to which he wished to call special attention regarding the operation was the fact that, after the method of most operators in such cases, he introduced the needle, intended to fasten the pedicle to the abdominal walls, through the stump below the ligature. This he now regarded as a mistake, and, on account of the distress which it caused the patient, he withdrew the needle on the third day and passed it through the stump above the ligature, which afforded relief. The day following the removal of the needle some febrile disturbance developed, which was found, on lifting the stump with a tenaculum, to be due to a collection of about a teaspoonful of pus in the upper portion of the wound. The next day the temperature rose again, and it was then found that there was some pus in the lower portion of the wound, beneath the ligature. As soon as this fœtid pus was washed away the temperature fell, and convalescence was thenceforward uninterrupted. There was no further kidney trouble after the operation; the urine was secreted in normal quantity, and no longer contained albumin. This fact was worthy of note, because it was stated in works on obstetrics that inefficient action of the kidneys in puerperal eclampsia was not due to pressure of the gravid uterus, otherwise a like trouble would arise from pressure of ovarian and fibroid tumors. Here was a case in which pressure was made by a tumor, and removal of this caused albumin to disappear from the urine immediately, and the fluid to become secreted in normal quantity. In reply to a question, Dr. Lusk said the entire uterus was removed with the tumor, which weighed seven pounds and a half; the stump separated on the twelfth day. He had had the valuable assistance of the president during the operation.

The President asked Dr. Lusk, who had spoken of tympanites (which was present in this case) as being the rule, if this was true of all cases of extirpation of the uterus, whether the stump was treated extra-peritoneally or not.

Dr. Lusk said he meant to refer only to those cases in which, the stump being short, the pressure of the needle was very near the descending colon.

Dr. J. B. Hunter remarked, with regard to the effect upon the kidney of removal of the tumor, that recently, in two cases operated upon by two different surgeons in this city, the urine, which had been apparently normal, became completely suppressed about the seventh day after the operation, and the patients died. The cases had progressed favorably until suppression of the urine had taken place. Dr. Hunter also remarked that he had employed the rubber cord, shown by Dr. Lusk, with satisfaction.

The President had reported a case last spring in which he hesitated to operate for the removal of a fibroid tumor because the urine contained albumin, but, instead of suppression of urine after the operation, as had been feared, the albumin disappeared and the secretion became normal, showing clearly that albuminuria had been due to pressure of the tumor upon the kidneys or upon the ureters.

Fibroid Degeneration of Both Ovaries.—The President presented two ovaries removed post mortem, which were the seat of fibroid degeneration. The patient was a nursing woman who, when she entered the hospital, was complaining of general malaise, and wished to wean her child, which she was allowed to do. Examination revealed two abdominal tumors, supposed to be fibroids of the uterus attached by pedicles. Within a week after her admission she complained of weakness in the legs, and a day or two afterward it was noticed that there was some anæsthesia of the limbs, and also that the gait was faltering. At the end of about the fourth day after the beginning of the anæsthesia the patient was unable to walk satisfactorily, and went to bed. The history of the case from this time on was simply that of a rapidly ascending paralysis, and the diagnosis rested between that affection and an acute softening of the cord. At the autopsy Dr. Welch was able, after searching for some time, to find softening of the central gray matter of the cord, most plainly marked at the lumbar enlargement, and disappearing in the dorsal region. The white matter was not involved in the least. The patient had died seven or eight days after the initiatory symptoms of paralysis, which first manifested itself in the feet, and ended in paralysis of the respiratory muscles, producing asphyxia. A positive diagnosis between softening of the cord and acute ascending paralysis was not made until after death, and this was often the case in the history of the two diseases, as clinically they frequently resembled each other very closely. The post-mortem examination also revealed fibroid degeneration of both ovaries, apparently of an interstitial character, both organs having attained a very considerable size. This condition he thought was quite rare. There was no ascites.

The President also presented another fibroid tumor of the ovary, which, when it was removed, was of about the size of the gravid uterus at the fifth month. The patient was twenty-five years of age, and, it was evident, had been carrying the tumor for some time, but its growth had been slow, and her attention had not been called to it until ten days before she entered the hospital, when peritonitis developed. It was necessary, in order to remove the tumor, to extend the abdominal incision from near the pubes to half way between the umbilicus and the ensiform cartilage. There was marked evidence of the last stage of peritonitis. Ascitic fluid was evacuated and the tumor removed, as was also the ovary on the opposite side, which was of the size of an orange and the seat of cystic degeneration. The patient left the hospital perfectly well at the end of six or eight weeks.

Dr. T. A. Emmet inquired whether fibroid tumors occurred in other portions of the body than in the ovaries where there was no muscular tissue.

The President said he thought that Schröder maintained that there were a few muscular fibers in the ovaries, but that Virchow thought it a question, in case a fibroid contained muscular fibers, whether it did not spring from the uterus.

Dr. G. T. Harrison thought it a question whether some tumors removed from the pelvis, supposed to be ovarian, were not originally tumors of the uterus. Some years ago he had reported a case of the kind to the society, which interested Dr. Peaslee, who said he had seen several such cases. In his own case the post-mortem examination would have led one to suppose that the pelvic tumor was a fibroid of the ovary, but, from the previous history of the patient, it was evident that the growth had originally belonged to the uterus, had become separated from that organ, set up pelvic inflammation, and then become adherent to the ovary.

The President remarked that Schröder had also pointed out the difficulty which sometimes existed in deciding whether a fibroma had originally developed from the uterus or from the ovary, but it was evident in the cases of the specimens which he had presented that the tumors had originally belonged to the ovaries.

Salpingo-oophorectomy.— The President, in connection with the cases just related, also reported the result of six cases of Tait's operation done in Bellevue Hospital since March last. Two of the patients were operated upon by Mr. Lawson Tait, who was on a visit to the United States at the time. Two cases were selected by Dr. Polk, instead of one, in order to test in a greater degree whether the success obtained by English surgeons was due to the climate, to the national traits of the patients, to the operator, or to other causes. The operations were performed in the amphitheatre of Bellevue Hospital, before about a thousand students, and the patients were not seen by Mr. Tait after the wounds were closed nor until fifteen minutes before their entrance into the operating-room. Both of the patients recovered without the slightest symptom which could be traced to the operation. In one there was some elevation of the temperature, which, however, had existed previously, and was due to chronic peritonitis. He was impressed with the simplicity of Mr. Tait's method of operating, one marked peculiarity of which was the fact that no hand besides his own was allowed to enter the peritoneal cavity. In each of the cases referred to both ovaries and tubes were removed, and at no time was Dr. Polk's assistance required, except to draw on one end of the ligature thrown around the attachment of the ovary. Mr. Tait made a small incision, for the purpose of obviating as far as possible the after-occurrence of hernia. The ease with which he operated seemed to be due to a considerable extent to a peculiar knot that he made which enabled him to complete the operation without the necessity of the assistant touching the ovary. He simply drew on one end of the ligature, which was then cut and thrown away. The operations were performed in from nineteen to twenty minutes; very few instruments were employed, and they lay by the patient at the operator's side. Mr. Tait, when at home, always selected and prepared his own sponges, thus diminishing the possibility of infection. The secret of his success seemed to be due to the ease with which he operated, to the simplicity of the operation, and to the fact that nothing was allowed to enter the peritoneal cavity except his own fingers, or the instruments and sponges, the cleaning of which he personally superintended. If this was not so, there seemed to be no reason why ill results should not have followed in the two cases mentioned, for the operations were performed under conditions which were universally condemned as unsuitable.

Dr. Hunter remarked that, while the surroundings under which the operations were performed were not appropriate for Tait's operation, they would be still less suitable for an ovariotomy, in which the peritoneal cavity was exposed.

Dr. Lusk remarked that Mr. Tait operated five times in this country during his visit, each time in the presence of large classes, and all the patients recovered.

The President had removed both ovaries and tubes a few days before, in the presence of about three hundred students, and the patient had had no bad symptoms since. The operation took twenty-two minutes.

Dr. Lusk said there was one peculiarity about Mr. Tait's operations which had not been mentioned by the president, namely, when adhesions existed, instead of enlarging the abdominal wound, he simply introduced his finger and broke them up, his large experience enabling him to do so apparently with perfect safety.

The President said, in reply to a question, that Dr. Tait thought hæmorrhage was more likely to continue from small vessels if the peritoneal cavity was closed than if it was left open and drained with a tube.

Dr. Lusk added that it was his custom also to insert four or five sponges into the abdominal opening in cases of hæmorrhage, leaving them for a few minutes, then to insert the drainage-tube and close the wound. He did not ligate small vessels.

Tubal Gestation treated by Electricity.—Dr. Lusk narrated the following case: Before he went to the country last summer a patient came to him, complaining of eczema of the anus and perinæum. At the end of August she visited him in Newport, saying that the itching which formerly troubled her had disappeared, but that she had recently had a very violent attack of pelvic pain, which had confined her to bed two or three days. There was a condition of the cervix which, together with some enlargement of the uterus, led him to believe she was pregnant. There had been some bloody discharge. In September she visited him again, when he discovered a tumor in the region of the ovary, a little larger than a pigeon's egg, which led him to suspect tubal pregnancy. Not wishing to alarm the patient, he told her to return again in the course of two weeks. At the end of two weeks he was informed that she had had a violent attack of pain, with partial collapse, but had rallied. About the 1st of November she visited him again, at which time the tumor in the right side of the pelvis was nearly as large as his two fists, pushing well down upon the vagina. The uterus was enlarged, and constantly discharged a sero-sanguinolent fluid. There was now no further question in his mind that the case was one of extra-uterine pregnancy, but he took the patient to Dr. Thomas, who said there could not be the slightest doubt about the diagnosis. The same evening Dr. Lusk began treatment by electricity, using the faradaic current, of about ten minutes'duration, repeating the applications night and morning for about a week. At the end of three days, however, the tumor had become perceptibly flaccid, and he had no doubt about the arrest of the growth, although he continued the applications until the end of the week. By this time the tumor had decreased to the size of a hen's egg, its walls appeared to be thick and wrinkled, the uterine discharge had ceased, and the patient had gained strength. Dr. Lusk thought the faradaic current as efficient as the galvanic, and less likely to produce shock; but his impression concerning the great amount of shock produced by the galvanic current in the cases treated in this city was corrected by Dr. Harrison and Dr. Emmet. In his own case Dr. Lusk applied one pole of the faradaic battery over the abdomen while the other was inserted first for five minutes in the vagina, and then for an equal length of time in the rectum.

Henry J. Garrigues, M. D.,
B. F. Dawson, M. D.,
Frank P. Foster, M. D., *ex officio*,
Committee on Publication.

Miscellany.

The Michigan State Medical Society.—The twentieth annual meeting opened at the Opera House at Port Huron, Wednesday, June 10th, at ten o'clock. Dr. Donald McLean, of Detroit, the president, called the meeting to order, and the Rev. Hastings Bliss, of Port Huron, offered a brief prayer. The president then introduced General W. H. Hartsuff, who made a brief address of welcome. Several prominent medical gentlemen from abroad were invited to seats on the platform, after which the Executive Committee made their annual report, which was approved. Dr. Campbell, of Ovid, read a paper on "Migraine," which was discussed by Dr. Smart, of Hudson. Dr. Woodward, of Tecumseh, next read a paper entitled "The Treatment of Fractures," which was warmly discussed by Dr. De Camp, of Grand Rapids, and others. The president then read the following telegram: "The Maine State Medical Society sends congratulations and fraternal good wishes to your society." A similar dispatch was ordered returned. Dr. McCall, of Lapeer, then read a paper on "Plaster of Paris in the Treatment of Fractures." Dr. Walker, of Detroit, then read a carefully prepared and able paper on "External Perineal Urethrotomy." The discussion was opened by Dr. Kimball, of Jackson.

The afternoon session was called to order at 2 p. m. Dr. McGraw, of Detroit, opened the session by reading a paper on "The Origin of Cancers and Tumors." Dr. McGraw also presented two patients from one of whom he had removed the thyroid gland, and from the other the entire left clavicle. Dr. Lundy then read a paper on "Iritis and its Relation to Certain General Diseases." The paper was discussed by Dr. Brodie, of Detroit, and Dr. Bennett, of Jackson. At four o'clock the treatment of fractures was again taken up and discussed by several prominent gentlemen, among whom was Dr. Hingston, of Montreal. The secretary then reported that letters and telegrams of regret had been received from Dr. Tye, of Chatham; Dr. Edwards, of London; Dr. Reeves, of Toronto; Dr. Russell, of Toronto; Dr. Geike, of Toronto; Dr. Dupuises, of Kingston; Dr. Benur, of London; Dr. Woodruff, of London; Dr. Howard, of Montreal; Dr. Phelan, of Kingston; Dr. Covington, of Toronto; Dr. Burgess, of London; Dr. Rauch, of Springfield, Mass.; Dr. Goodell, of Philadelphia; and Dr. Jackson, of Chicago. Dr. Johnson, of Grand Rapids, chairman of the Special Committee on Reorganization, reported a number of important changes which were recommended for adoption. They were ordered printed and laid on the table for one year.

Dr. Carstens then read a paper on "Sterility," which was fully discussed by Dr. Palmer, of Ann Arbor, and Dr. Octerloney, of Louisville, Ky.

The evening session convened at 8.30 o'clock. The president introduced Dr. Morse, of the Ohio State Medical Society, and then called vice-president Cook, of Muskegan, to the chair. The President then read his address, which was an able effort and well received. Dr. Palmer, of Ann Arbor, read his paper entitled "The Physiological and Therapeutical Efforts of Alcohol." This paper was specially interesting to many outsiders and drew a large audience. It was discussed by Dr. Wheelan, of Hillsdale, who followed with a paper entitled "The Possibility of a Concurrent Medical Opinion upon the Physiological Effect of Alcohol." The programme was very full, and those who wished to read papers were asked to make them as brief as possible that all might be heard. The St. Clair Mineral Spring Co., through Dr. Blanchard, tendered a steamboat excursion to St. Clair, and the hospitality of the Oakland House to all who desired a ride upon the river. The following gentlemen were recommended for membership: Dr. Merritt, of Fort Gratiot; Dr. Wilson, of Port Huron; Dr. Chittock, of Detroit; Dr. Smith, of Detroit; Dr. Ingles, of Detroit; Dr. Taylor, of Loomis; Dr. Blanchard, of St. Clair; Dr. McLaughlin, of Cass City; Dr. Northrup, of Port Huron; Dr. Stockwell, of Port Huron; Dr. Clancey, of Port Huron; Dr. Taylor, of Mt. Clemens; Dr. Tibbitt, of Linden; Dr. Chamberlin, of Almont; Dr. Thompson, of Flint; Dr. McIntee, of Melvin; Dr. Moors, of Richmond; and Dr. Flora H. Ruch, of Ypsilanti. An interesting feature of the meeting was the presence of Dr. Stockwell, of Port Huron, who was the first president of this society. He was warmly congratulated.

Thursday morning the papers on alcohol, by Dr. Palmer and Dr. Kinne, of Ypsilanti, were discussed and referred. Dr. Smart, of Hudson, of the Committee on Medicinal Legislation, reported on the bill now before the Legislature providing for a Board of Medical Examiners to regulate the practice of medicine and surgery, and the subject was referred to a committee of five. Dr. Smart suggested that the committee on State sanitation prepare a bill to be presented to the Legislature to compel every secret preparation to be accompanied by the formula. The convention seemed to think that this was a free country and that the public should be protected by using these preparations with their eyes open.

Dr. Stowell, of Ann Arbor, read a paper on "The Microscope in Medicine." Dr. Prescott, of Ann Arbor, read a sketch of a plan to compel the publication of constituents of proprietary medicines on the labels.

Dr. DeCamp read a paper "On Gems in Medical Practice." This paper was very interesting and was liberally illustrated with valuable specimens.

Dr. Shurly, of Detroit, discussed the subject.

The election resulted in the choice of the following officers for the coming year: President, Dr. E. P. Christian, of Wyandotte; vice-presidents, Dr. Patterson, of Charlotte; Dr. Carstens, of Detroit; Dr. Griswold, of Grand Rapids; Dr. Alvord, of Battle Creek. Dr. Ranney was re-elected secretary, and Dr. Smart treasurer.

A vote of thanks was tendered the Executive Committee and the people of Port Huron for their kindly entertainment of the society.

Dr. Kinne read a paper on "Post-partum Hæmorrhage," and a free discussion was given it. A paper on "Students' Eyes" was read by Dr. Hemingway, of Kalamazoo. Dr. Stockwell read a paper "On Functional Paralysis due to Malarial Poison," and it was discussed by Dr. Vaughn.

The newly elected president was introduced, and thanked the society for the honor conferred upon him. Dr. George, of Ann Arbor, read a paper on "Abscess of the Cerebellum and its Complications." Dr. Sullivan read a paper on "Atresia of the Vagina, with Loss of the Urethra and the Base of the Bladder."

At 4.30 the society and invited guests took the steamer Conger for a trip on Lake Huron, and returned to the Oakland House, where Dr. Blanchard entertained the company. After supper the toast of "Our Guests" was responded to by Dr. Morse, and Dr. Long, of Louisville, and Dr. Hingston, of Montreal. Dr. Ward, of Langsburg, read a paper entitled "The Professional Dude." The toast of "Our New Members" was responded to by Dr. Frothingham and Dr. White, and that of "Our Presidents" by Dr. McLean and Dr. Stockwell.

The Rhode Island Medical Society held its seventy-fourth annual meeting in Providence on Thursday, the 11th inst. The president, Dr. Oliver C. Wiggin, being absent, the first vice-president, Dr. H. G. Miller, presided. The report of the Trustees of the Fiske Prize Fund, presented by their secretary, Dr. C. W. Parsons, showed that the following prizes had been awarded: $200 to Dr. C. V. Chapin, of Providence, for an essay entitled "The Present State of the Germ Theory of Disease"; and a like sum to Dr. H. A. Hare, of Philadelphia, for an essay on "The Physiological and Pathological Effects of the Use of Tobacco." The Trustees reported also that they had chosen the following subjects for the essays for 1886: "The Methods and Practical Results of Treatment of Malarial Diseases now prevalent in New England," and "New and Altered Forms of Disease due to the Advance of Civilization in the past Half-century." It appeared from the report of the Library Committee, presented by Dr. T. Newell, that 1,007 books had been added during the year, making the total number 4,593. The following-named new members were elected: Dr. Vernon O. Taylor, of Providence; Dr. Gilbert L. Church, of Warren; Dr. James B. Erskine, of Johnston; and Dr. Sophronia A. Tomlinson, of Providence. Officers for the ensuing year were elected as follows: President, Dr. Oliver C. Wiggin; first vice-president, Dr. Horace G. Miller; second vice-president, Dr. John W. Sawyer; secretary, Dr. George D. Hersey; corresponding secretary, Dr. Edward M. Harris; treasurer, Dr. Charles H. Leonard; censors, Dr. Ariel Ballou, Dr. J. H. Eldridge, Dr. J. W. C. Ely, Dr. G. P. Baker, Dr. S. S. Keene, Dr. Benjamin Greene, Dr. Job Kenyon, and Dr. Eugene Kingman.

Clinical Instruction in Midwifery.—We would call our reader's attention to Dr. Partridge's announcement, in our advertising columns, and say to those of them who may contemplate taking a practical course of instruction in obstetrics that the opportunity afforded by Dr. Partridge will in every way be found of great advantage.

Gastrotomy for the Extraction of a Foreign Body.—Dr. J. W. Eddy, of Oswego, N. Y., writes as follows: "On ——— ——— I was called to see Lulu H., age twenty-two months. The mother said that the child, while standing on a chair in front of a dressing case, fell over backward, and, on picking her up, she found her choking, and, looking into her throat, saw something black, which resembled a hairpin, disappearing downward. I ordered a constipating diet and advised waiting for results. After a few days I was called again, and the mother said that the child was very restless and cried a great deal, and that there were lumps in the left axilla. I found the lymphatic glands enlarged, and noticed two red spots over the stomach, a little to the left of the median line. The symptoms were so alarming that I decided to operate; and, calling in Dr. Clark, after consultation we concluded that the foreign substance must be removed in order to save life. I determined to cut down to the stomach through one of the red spots, hoping to find that the foreign body had penetrated the stomach at that point. Anæsthetics were administered and I made an incision two inches in length. I inserted a probe and passed it over the stomach, but found nothing. Then taking a long porcelain-tipped probe and passing it under the cardiac portion of the stomach, I detected a hard substance. Reaching in with a pair of long, slender forceps, I seized the body and tried to bring it to the surface, but found that it was entangled in the ribs. After working for some time and pushing the object backward into the stomach, and then pulling upward through the incision, I drew forth several inches of a hat-pin. Coming to the head, I made an incision in the stomach, letting that through, and thus, having removed a hat-pin five and one eighth inches long and having a large glass head, I simply let the stomach back into the abdomen, making no stitches, but trusting to the stomach's contractile powers to close the incision. For two days the milk and water which was given the child passed in small quantities through the wound, after which the gastric fistula closed, and in ten days the edges of the external wound had united and the child was well."

The Health of the State of New York.—According to the returns to the State board of health for the month of April, the proportion of deaths in each thousand was 132·55 from zymotic diseases, 132·71 from consumption, and 205·71 from acute respiratory diseases.

The American Laryngological Association will hold its seventh annual meeting in Detroit on Wednesday, Thursday, and Friday, the 24th, 25th, and 26th inst. An address of welcome will be given by Dr. David Inglis, of Detroit, and the following papers are expected to be read: "On the Use of Galvanism in Pharyngeal Affections," by Dr. E. L. Shurly, of Detroit; "The Respiratory Function of the Human Larynx," by Dr. F. H. Hooper, of Boston; "On some of the Motor Derangements of the Larynx, with Cases," by Dr. H. A. Johnson, of Chicago; "On certain Vaso-motor Disturbances of the Nasal Membrane," by Dr. W. C. Glasgow, of St. Louis; "Reflections on the Ætiology of the Simple Inflammatory Affections of the Upper Air-Passages," by Dr. John N. Mackenzie, of Baltimore; "Erysipelas of the Pharynx and Larynx," by Dr. D. Bryson Delavan, of New York; "Submucous Laryngeal Hæmorrhage complicated by a Cyst," by Dr. Frank L. Ives, of New York; "The Galvano-Cautery in Laryngological Practice, with the Exhibition of a New Cautery Snare," by Dr. Harrison Allen, of Philadelphia; "The Principles involved in the Construction of Spray-Tubes," by Dr. A. H. Smith, of New York; "Leucoplakia Buccalis," by Dr. E. Fletcher Ingals, of Chicago; "A Case of Melano-sarcoma of the Nose, cured by Galvano-cauterization," by Dr. R. P. Lincoln, of New York; "Angioma of the Nose," by Dr. J. O. Roe, of Rochester; "Deformity of the Nose as a Factor in Nasal Catarrh," by Dr. J. W. Robertson, of Detroit; "Inflammatory Adhesions of the Soft Palate to the Wall of the Pharynx," by Dr. C. C. Rice, of New York; "Alimentation in Laryngeal Phthisis," by Dr. Beverley Robinson, of New York; "An Additional Note on the Therapeutic Action of Cocaine," by Dr. F. H. Bosworth, of New York; "Personal Experience with some Recent Additions to the Materia Medica of Laryngology," by Dr. S. Solis-Cohen, of Philadelphia; "A Case of Membranous Nasal Catarrh," by Dr. G. W. Major, of Montreal; "On the Influence of Diathesis on Mucous Membrane," by Dr. W. F. Duncan, of New York; and "On the Efficacy of Mild Measures in the Treatment of so-called Nasal and Naso-pharyngeal Catarrh," by Dr. J. Solis-Cohen, of Philadelphia.

THERAPEUTICAL NOTES.

Oxalic Ether.—Richardson ("Asclepiad") recommends this compound for hypodermic injection. It is obtained by digesting absolute alcohol and ether at a moderate temperature, and is a colorless liquid of an agreeable odor. Unlike sulphuric ether, it does not cause pain when injected under the skin, and the resulting inflammation is slight. It is suggested as a useful application to morbid growths, either externally or by deep injections.

Iodoform in the Treatment of Gout.—Testa ("Gazz. Med. di Torino"; "Dtsch. Med.-Ztg.") has published the results of a series of careful observations, both experimental and clinical. He finds that this drug increases the amount of uric acid excreted, and accelerates the processes of oxidation. The amount of oxalates is diminished, even when food is taken which is rich in oxalic acid. In cases of gout the writer employs daily doses varying from one to four grains, which, he maintains, may be continued for months without general disturbance. Under the use of iodoform the attacks become less frequent, and their duration and intensity are lessened. Stress is laid on the fact that the presence of renal disease is a contra-indication to the employment of the drug, the danger being that it will not be eliminated, but will be retained in the system and give rise to toxic symptoms.

Mercury in the Treatment of Gout.—Illingworth ("Brit. Med. Jour.") has used the following mixture with favorable results:

Solution of bichloride of mercury (Br. Ph.).	6 drachms;
Iodide of potassium......................	30 grains;
Infusion of quassia......................	6 ounces.

Dose, half an ounce every two or three hours. Morphine or chloral may be added if the pain is severe. [The British solution of bichloride of mercury consists of ten grains, each, of the bichloride and sal ammoniac dissolved in an imperial pint of distilled water.]

Turpentine in the Treatment of Dysentery.—Genkin ("Wratsch"; "Dtsch. Med.-Ztg.") commends the use of oil of turpentine, in doses of ten drops to a teaspoonful of castor-oil, and states that he has produced better results with it than by using opium. In only seven out of fifty-nine cases was there any disturbance of the urinary organs.

Tincture of Iodine in the Treatment of Intermittent Fever.—Schabliovsky ("Russkaja Medicina"; "Dtsch. Med.-Ztg.") has treated twenty-six cases of intermittent fever with tincture of iodine, ten drops being given three times a day. A cure resulted in every instance, without unpleasant consequences.

Salt Baths in the Treatment of Fever.—Rabinowitsch ("Wratsch."; "Dtsch. Med.-Ztg.") reports the results of treatment in the cases of sixteen patients, who received in all one hundred and forty-one baths. He says that not only did the addition of salt to the water cause a greater reduction of the temperature, but the pulse and respiration were improved, and the patients felt much stronger than was the case after the use of fresh water.

An Ointment for Sore Nipples.—Groussin ("Éclaireur pharm."; "Lyon méd.") recommends for application to sore nipples in nursing women an ointment composed of equal parts of white sugar, oxide of zinc, gum arabic, and glycerin.

Lectures and Addresses.

THE ANNUAL ADDRESS

BEFORE THE

AMERICAN LARYNGOLOGICAL ASSOCIATION.

By E. L. SHURLY, A. M., M. D., Detroit,
PRESIDENT.

Gentlemen: Another year has rolled around and brought us together for the dual purpose of comparing our professional experience and exchanging expressions of good-fellowship. I have only to allude to the past six years' history of this organization in order to call to mind the many useful ends accomplished, and to point with pride to the fact that, as one of the stars in the galaxy of the science of medicine, laryngology has not been wanting in luster. It has been thought by some that, in tilling so closely one corner of this vast field of medical science, the crop garnered might seem inadequate to the labor expended, and hence the idea has been urged upon many of us that the scope and object of our work ought to be enlarged so as to include, for instance, otology, etc. This at first might seem to be the case, and indeed may prove to be the case in the future, since our indefatigable workers have attained such signal results. But while Nature yet keeps hidden so many facts regarding her mysterious processes even in this department, laryngology, there can be no fear that the ground will be so over-cultivated that we shall have for our pains nothing but sickly aphorisms or tall sterile theories.

I think the great success of this organization consists in the unity of action and aim which has imbued every individual member for the advancement of this particular branch of our art. Indeed, nothing so thoroughly enlarges the mind and suggests to us the error of our ways as the sharp but friendly conflict with one another in an assemblage of this sort; but, while we may therefore justly feel proud of our organization with all its defects as heretofore maintained, perhaps it will not be out of place for us for a moment to look at ourselves as some others see us. It is well known to many of you that quite a number of the profession look upon specialists' organizations as aristocratic combinations. Of course the larger body of the educated profession, who have kept up with the times and who have seen the advance of medical science during the last twenty years through the instrumentality of so-called specialists, and who are therefore well acquainted with the work accomplished by such special organizations, take no share in any such conclusions. But there are those who do thus honestly censure us under the belief that no more can be accomplished in this wise than by the same amount of organized work in connection with the general professional body. It must be understood that I omit from consideration the criticisms of all those professional brethren who are comparatively ignorant, who are incased in the porcupine-shell of petty jealousy, or who are victims of that disgusting mental deformity, self-conceit; for the aggregate life-work of such comprises only a muddy patch on the posterior extremity of the professional body. But, in answer to those criticisms emanating from honest and respected members of our profession, I think I may say for all that such organizations may in one sense be regarded as aristocracies when based wholly, as in this case, upon a desire for intellectual improvement and mental achievements; for justly mental culture should be the test and essence of aristocracy in every sphere or walk of life. The object, then, of this organization being the achievement in a particular direction of mental superiority, and the acquisition of knowledge, we can plead guilty to the charge, I suppose, without a blush. The charge of mercenary aims can be discharged without argument, as the standard and character of our membership at once furnish a full refutation.

It has been urged with some feeling by many that this organization ought not to exist, but that its members ought to turn their attention and energies toward the building up of the section of ophthalmology, otology, and laryngology of the American Medical Association. Those of us who have from year to year attended the American Medical Association will at once see the impossibility of rendering as good service for the advancement of this particular branch in the American Medical Association as by maintaining a separate organization composed of persons who are especially studying and practicing in this department. However, so far as our own personal advancement is concerned, we probably might reap greater benefits from papers read before a general medical body. To dispel an illusion, let me say that in no way can this organization be considered as at all in opposition to the American Medical Association, to which organization we are all allied, but it is a well-known fact that the highest order of thought will be generated upon a subject by the best-adapted stimulus; and when we get together in this organization of identical interests, the drift of thought and the character of the papers and discussions must necessarily be of a much closer and accurate nature than in an assemblage of only partially interested critics. It would therefore seem to me that this criticism, so frequently urged, is ill taken and comes mainly from a misunderstanding by those practitioners of the objects and standard which we essay to establish. I believe the standard of our organization can not be *too high* or the selections of members too carefully made, for it matters not if there are but twenty-five or thirty workers in the hive if these are men of ability, industry, and observation, bent upon bringing out all the facts connected with the subjects comprised in this department of science. It is indeed generally granted that no one is exactly competent for the study and practice of any specialty who has not been a thoroughgoing practitioner, because the several anatomical structures of the human body are both physiologically and pathologically so intimately connected that it is nonsense for a man to suppose that he can attain any material headway in practice without being fully acquainted with all the general workings of the human economy. Therefore, *all* members must be general practitioners.

My sense of propriety, gentlemen, will not allow me to omit calling your attention to the association's jewel—our secretary. I can truly indorse the remarks of my predecessor on the subject, and add with pleasure that the even and successful working of this organization is particularly due to his efficiency.

While we have very much for congratulation in the harmonious working of our organization, it is my painful duty to call your attention, before closing, to one or two of our adversities. Since we last met, death has broken our phalanx by taking away two of our members. One of those deaths, that of Dr. Louis Elsberg, one of the founders of the American Laryngological Association and the patriarch of laryngological science in America, constitutes a loss which may, without exaggeration, be said to be irreparable. Many of you perhaps knew Dr. Elsberg better than I did, but, from my own knowledge of him, I feel that I can hardly be too extravagant in any eulogium which I might be able to offer. He was well known as one of the erudite members of the American medical profession. Although of genial, yet enthusiastic, temperament, he was sharp and incisive in debate, with a mind so critical as to be able to detect the slightest inconsistency or defect in the statements or work of a colleague, and a mind powerful and courageous enough to broaden such defects into chapters of instruction. With a disposition so bland that he could hurl the arrows of censure at any one of us without exciting the slightest tinge of resentment or animosity, he was indeed a great man. These qualities made him, I may say, our most valuable member, while his fund of knowledge constituted one of our most valuable storehouses; and that he should be stricken down in the very zenith of his career, and at the very time when his usefulness was so potent in our organization, is indeed a calamity. I trust that his example may awaken in us the development of such mental attributes that we may each, before "shuffling off this mortal coil," accomplish also something more than a mere sustenance of the body—the animal paradise.

The other gentleman, Dr. Chamberlain, was one of our newer members. I regret to say that my personal acquaintance with him was very short, but he promised to be a very active co-worker, while his spotless professional and social character was such as to make us feel that his demise is a very great loss to us. He had been for some years especially active in laryngology, and, although not a prolific writer, and for that reason not so generally known as some others, his sound judgment, philosophy, and earnest work had earned for him the very highest esteem of all professional brethren who knew him. In conclusion, gentlemen, allow me to reiterate my deep sense of thankfulness for the honor which you conferred on me a year ago by electing me your presiding officer, and also to state that this mark of your esteem will be gratefully remembered not only by myself, but also by the profession of the State to which I have the honor to belong. And let me indulge the hope that at no distant day we may again have the privilege of welcoming you to our great West. In accordance with the usual custom, I will now proceed to read a short paper on the "Use of Galvanism in Chronic Diseases of the Pharynx."

LECTURES ON ELECTRICITY IN MEDICINE,

DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VERMONT, BURLINGTON,

By AMBROSE L. RANNEY, M. D., New York.

Lecture I.

(*Continued from page 629.*)

ATTACHMENTS TO A COMPLETE BATTERY.

Although it is not necessary for a general medical practitioner to have all of the attachments to a battery such as are employed by neurological specialists, still it is important that they be mentioned here, and their uses interpreted to the reader. The most important attachments to a cabinet, or fixed battery, for office use only are a galvanometer, a rheostat, a thermo-electric differential calorimeter, a polarity changer, or "commutator," and a variety of rheophores and electrodes. Portable batteries do not require the first three of the attachments mentioned, but they should possess the others.

The Galvanometer.—When a galvanic current circulates in a coil of wire about a magnetic needle, it causes deviations of that needle, which are modified by both the strength and direction of the current deflected into the coil. This fact has led to the construction of an instrument, called "the galvanometer," for the purpose of measuring the *strength* and *direction* of a current deflected into a coil beneath such a needle. When this instrument (properly made and calibrated) is connected with a battery, the strength of any number of cells in milliampères can be determined.* It is vitally important that the dial of a galvanometer should *not be divided into degrees of equal distances.* Such a galvanometer is absolutely worthless. The graduation of the dial should be *by tangents*, as shown on Fig. 18.

The deflection of the needle grows less and less for every milliampère of current; hence a dial, to be accurate, should be carefully graduated so as to correspond with the needle-deflections for different current-strengths. The first divisions on either side of the zero point on such a dial will be coarse, but they should gradually grow finer and finer till the maximum point is reached. *Such a dial will not be graduated around its entire circumference*, as the maximum point will be reached before the 90° of the circle on either side are required. My own galvanometer is graded into *equal degrees* on one half of the dial, and on the other half it is graduated to show milliampères.

Within the past few years the efforts of Erb, Eulenburg, and Bernhard in Germany, Gaiffe in France, and De Watteville in England, have awakened the profession to the necessity of accurately measuring the current-strength employed upon a patient by means of a reliable galvanometer. To their views I lend my most hearty support. As well can I conceive of a boiler without a steam-gauge and of a drug-store without a scale as a galvanic battery without a galvanometer, provided its possessor aims at scientific precision in his treatment of patients by galvanism. Much of the neurological literature we now possess is materially lessened in value by the fact that the observations recorded lack scientific precision. If we expect to arrive at positive conclusions regarding methods of employing electricity for therapeutic or diagnostic purposes, we must have a more accurate and scientific basis for recording the strength of the current employed than the simple statement of an observer "that a certain number of cells were used" in each particular instance. Cells vary in their capacity and electromotive force; they change in both respects from day to day, from use and polarization; the external resistance afforded by different individuals is not uniform, although the poles may be similarly placed and all precautions taken against poor conduction; and many other sources of error may creep into observations practically made by "guess-work" only. The scientific world has now quite generally accepted the "milliampère" as the recognized standard of a unit of current-strength. A milliampère-meter is therefore the instrument which each of you should own, and all of your observations should be recorded from the deflections of its needle. We shall probably be able soon to state with some positiveness the number of milliampères which are required to excite each of the more important nerves of the human body in health, and the exact limits between which contractions of certain muscles may thus be excited. Eulenburg and Weiss have already made a step in this direction.

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* Every galvanometer should measure at least one quarter of a milliampère to be considered worthy of indorsement.

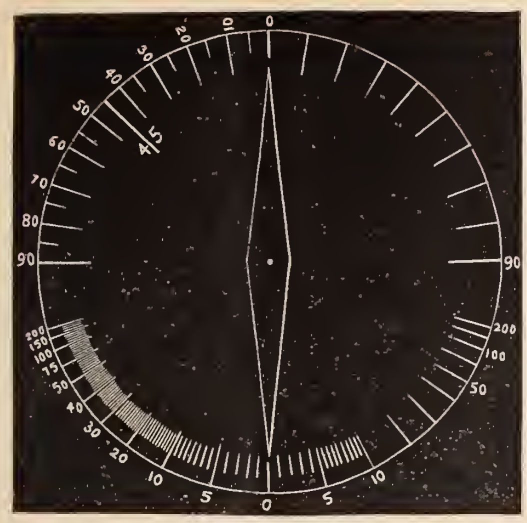

Fig. 17.—A Galvanometer Dial (after De Watteville). The lower half of the circle is graduated to milliampères; the upper half to degrees of equal distance. One serious criticism can be made of this dial, viz.: that it does not indicate fractions of the first milliampère of current. To my mind, a galvanometer-needle deflection for the first milliampère of current should be sufficient to show at least a quarter or an eighth of a milliampère. This fault is common to all vertical milliampère-meters with which I am acquainted; even Hirschmann's instrument does not entirely overcome it. I am at work at present upon a new form of milliampère-meter, which I hope will remedy this serious objection and at the same time allow the needle deflections to be read easily when the eye is on the same level as the needle. I do not believe that it is necessary to graduate any galvanometer above 40 milliampères; no patient will endure a current of over 20 milliampères through a high resistance, and very few will bear one of 12 milliampères.

One reason why I prefer the vertical form of galvanometer to the horizontal is the fact that terrestrial magnetism does not exert an appreciable influence upon it; hence observations made with such an instrument would be alike in all parts of the globe. The vertical galvanometer is more expensive, provided it is accurately graduated, than the horizontal—a fact which, perhaps, would lead me to advise you to purchase the less expensive instrument. At my request, Messrs. Waite & Bartlett have lately graduated some horizontal milliampère-meters with great accuracy by a Thistleton's instrument. I can recommend them as reliable and comparatively inexpensive. Before you purchase this important attachment to a battery, test it, if possible, by one whose accuracy can be relied upon. I would far rather have none than a poor one. At present I am employing a vertical milliampère-meter, made after a design of Dr. Rudisch.* Thus far it gives me excellent satisfaction.

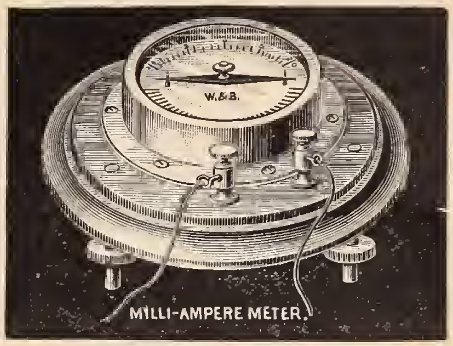

Fig. 18.—A Horizontal Milliampère-meter (after the Thistleton pattern). The screw-feet allow of adjustment so as to insure a perfect leveling of the instrument. It is then revolved so that the needle (which will point north) rests at the zero point of the dial. Reversal of the current diverts the needle to the opposite side. One of the rheophores shown goes to a binding-post of the battery, and the other to one of the electrodes employed upon the patient. This instrument is very delicate, but the eye has to look down upon the dial in order to observe the deflection of the needle. If the instrument is placed lower than the eye, this objection is not serious. With it it is easy to detect small fractions of a milliampère of current, and it is much less expensive than a good vertical galvanometer and more accurate than most of those offered to the profession.

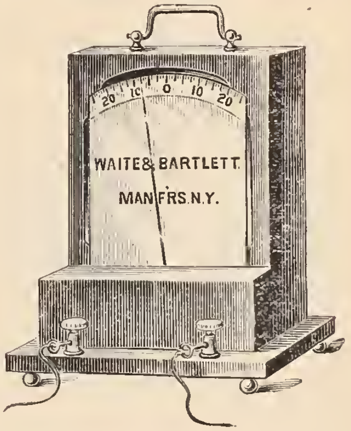

Fig. 19.—A Vertical Milliampère-meter (after an original design by Dr. Rudisch). This instrument I have tested of late upon my own battery. In many respects it is an excellent one; it will not, however, record fractions of a milliampère unless the dial is magnified by a glass. This objection holds good, although to a less degree, of the more elaborate instrument devised by Hirschmann, which is provided with "shunts." An absolutely perfect galvanometer has yet to be devised. Terrestrial magnetism can easily be overcome, but there are some mechanical difficulties that are more serious. A vertical needle (if very long) is affected by gravity when it is deflected by a strong current toward the extreme limits of the scale. A horizontal needle obviates this difficulty, but is more or less affected by terrestrial magnetism.

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* This is shown in a cut of my own cabinet battery, on a succeeding page, and in Fig. 20.

Hirschmann's vertical galvanometer with astatic needles, called the "absolute galvanometer," has been highly recommended of late. I have not yet tested it.

The Rheostat.—This is an appliance to regulate the external resistance of a battery under varying circumstances. Several devices are made for this purpose, but the fluid rheostat (containing water, solutions of salt, solutions of zinc sulphate, etc.) is all that is required for purely medical uses. It is cheap, easily managed, and sufficiently accurate for the purpose. It is liable to polarize * when used too long, and does not act so well with strong currents as with weak ones. It consists of a glass tube filled with water or some prepared solution (preferably a forty per cent. solution of sulphate of zinc), through which a brass rod or an amalgamated zinc electrode is made to slide up and down, thus separating its lower end from a button at the bottom of the tube. When the current is sent through this rod, it is forced to pass through the depth of fluid that lies below it in order to reach the button at the bottom of the tube. By moving this rod, the amount of fluid which is thus interposed in the circuit of the battery can be graduated to any desired point. In this way a greater or less resistance can be made at will. A fluid rheostat is absolutely useless for measuring the strength of a current, but is an excellent appliance for modifying it.

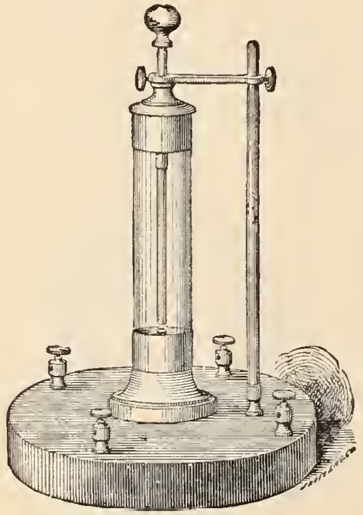

Fig. 20.—A Fluid Rheostat. This instrument is used to throw additional external resistance into circuit. Coil rheostats are more reliable, because the fluid is decomposed and causes polarization of the metal points when strong currents are used. Some of the graphite rheostats are preferable to those containing fluid, and are cheaply made.

The Thermo-electric Differential Calorimeter.—This apparatus is used in medicine to measure differences in temperature in homologous parts of the body, or of any two selected points. It is much more delicate than any form of surface thermometer, and is often very valuable as an aid in making a scientific diagnosis. Like many of the instruments of precision, it requires experience to use it and it is somewhat expensive. The study of surface thermometry has not assumed the importance which, in the opinion of the author, it is destined yet to take. Waite & Bartlett, of New York, have constructed for me one of the most perfect instruments of this kind that I have ever seen.

The study of cerebral thermometry has already led to the discovery that the left hemisphere is normally hotter than the right (Hammond); that willed muscular action raises the temperature of the scalp over the motor centers called into action (Amidon, Gray, and others); that mental activity, emotional excitement, and merely arousing the attention cause a rise in temperature (Lombard); and that tumors of the brain or its envelopes are indicated by a localized rise in temperature over the site of the neoplasm. I have lately made some novel and interesting experiments in this field which I propose shortly to publish. In detecting inflammatory conditions of the abdominal viscera, this instrument has lately been employed with satisfactory results.

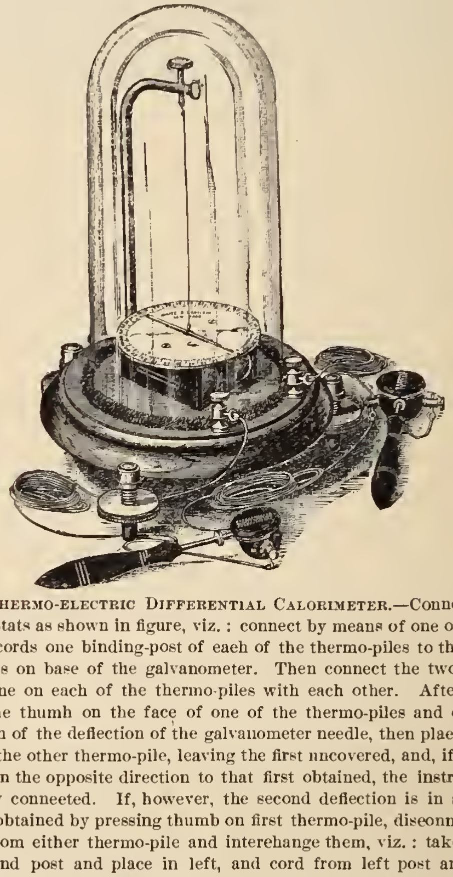

Fig. 21.—Thermo-electric Differential Calorimeter.—Connect the two thermostats as shown in figure, viz.: connect by means of one of the metal tipped cords one binding-post of each of the thermo-piles to the two binding-posts on base of the galvanometer. Then connect the two remaining posts, one on each of the thermo-piles with each other. After so doing, place the thumb on the face of one of the thermo-piles and observe the direction of the deflection of the galvanometer needle, then place thumb on face of the other thermo-pile, leaving the first uncovered, and, if the deflection is in the opposite direction to that first obtained, the instruments are properly connected. If, however, the second deflection is in same direction as obtained by pressing thumb on first thermo-pile, disconnect the two cords from either thermo-pile and interchange them, viz.: take cord from right-hand post and place in left, and cord from left post and place in right-hand post; the deflections will then be as first alluded to, one pile turning needle in one direction and the other in the opposite direction.

I have lately made an improvement * upon this instrument which enables the physician to detect differences in the

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* We speak of an element as "*polarized*" when bubbles of hydrogen accumulate upon it and thus diminish its efficiency.

* The improvement to which I refer consists in the addition of a polarity changer of my own construction which enables me to reverse the deflection of the needle without removing the thermo-piles from the surface of the patient. If the needle, for example, shows a deflection of 15° on the right side and 12° on the left side, the difference of 3° shows double the imperfection which exists in the thermo-pile thus tested, and the proper registration should therefore be 13½°. Such imperfections in thermo-electric piles are practically unavoidable and can be detected in no other way. As far as I know, this defect has never before been remedied. This has heretofore been the only serious drawback to the differential calorimeter, and the addition of this improvement renders the instrument far more valuable for accurate scientific purposes.

electro-motive force of the thermo-electric piles employed. This corrects all errors in observations made with this instrument.

The Current-Selector.—This device is now added to all of the modern galvanic batteries, whether designed for office use or for transportation. By it, the *number of cells desired can be thrown into circuit.* If a circular dial studded with buttons (which represent the cell-connections) is used, the bar which revolves and impinges upon the buttons acts as a connection between the button on which it rests and the metallic pivot on which it revolves.

It is important that this bar be broad enough to touch each button before it leaves the one behind it, otherwise the current is apt to be broken when the intensity of the current is changed. I have known of serious results from such an accident when a large number of elements were being used upon the head of a patient. At my suggestion, a modification of the dial current-selector has been made by Waite & Bartlett, of this city.

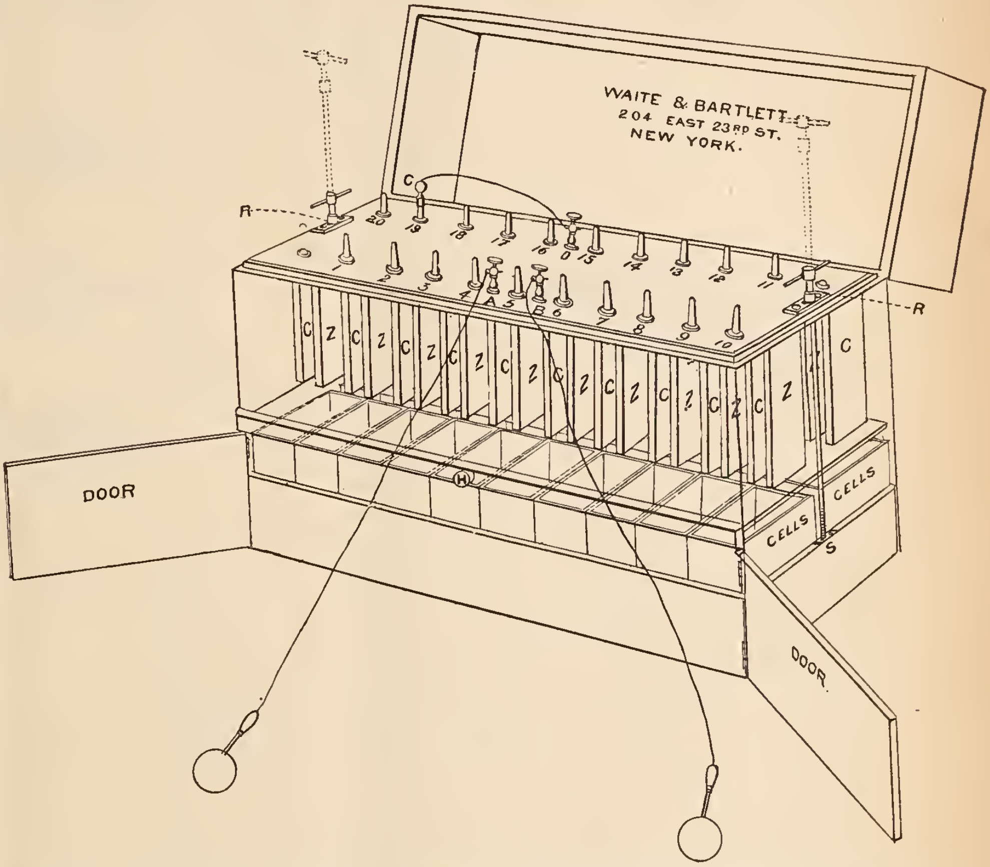

Fig. 23.—A Skeleton Drawing of the Pin Variety of Portable Galvanic Battery. *R*, handles by which the tray of cells is raised and lowered. *Z*, zinc elements. *C*, carbon elements. *A*, *B*, binding-posts. *D*, attachment of the stopper which fits over the pins. *H*, a rubber-covered diaphragm which separates the cells from the elements when the battery is not in use; this is removed when the cells are lifted so as to immerse the elements.

Another form of current-selector is that employed by the same firm for some of their instruments. I greatly prefer it to any other kind for a portable battery, as it enables the operator to select the desired number of cells from any part of the battery—thus insuring an equal amount of wear upon all of its parts. It consists of pins projecting from the dial-plate, each of which represents one cell. These may be brought into circuit by means of two stoppers which are placed upon any of the pins desired; the number of pins between the stoppers will immediately tell the operator how many cells are being used. An objection to its use is that it dispenses with a polarity changer—in case the cells employed are capable of being thus selected.

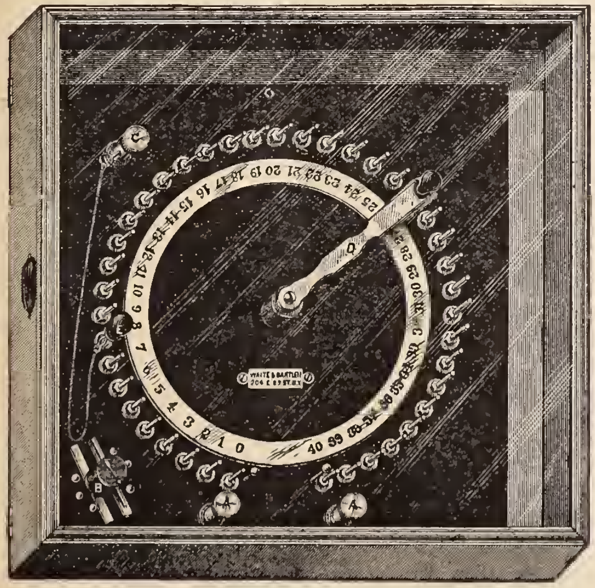

Fig. 22.—A New Form of Current-Selector. This allows of a selection of any desired number of cells from any part of the battery, thus insuring equal wear and many other advantages.

The accompanying cut shows the portable galvanic battery of this make with the current-selector attachment described. In this form one stopper only is employed, and the cells in use are indicated by the numerals placed at the base of each pin. With this arrangement a polarity changer is admissible, and is affixed to all so constructed. This is particularly to be desired.

One claim that is made in favor of this device is that this form of key-board prevents oxidation, as the wires which are usually employed to join the cell-elements with the current-selector in other apparatuses are entirely dispensed with. This advantage is an important one to those who live away from the large cities and are not sufficiently familiar with electrical apparatus to make their own repairs.

In batteries which are formed of a large number of cells, it is best to have two dial current-selectors, so that a gradual increase or decrease of the current can be made without breaking the circuit. In one dial, each button should represent one cell, while in the other each should represent from two to five cells. It is easier to make any desired combination of cells with rapidity by means of such an arrangement than if the dials were alike.

The Polarity Changer or Commutator.—Most galvanic batteries have a switch upon the key-board that is intended for the purpose of changing the poles at will without disturbing the rheophores or electrodes. The details of the many mechanical contrivances employed for that purpose need not be given here.

This attachment is almost indispensable to a battery designed for office or experimental work, since the reactions of the poles can thus be more readily studied. It is desirable, moreover, to have it attached to a portable galvanic battery. It should be so arranged as to permit of *opening and closure of the circuit*, as well as the *reversal of the current.*

The Rheophores.—These are flexible wires which are necessary to conduct the electric current from the battery when in action to the patient. Insulated copper wire forms the best rheophore, as it is an admirable conductor. Tinsel threads insulated with cotton wrapping are more generally used (although they are not such good conductors), because they do not kink and are more flexible. They are connected at one end to the "*binding-posts*" of the battery, and at the other to the electrode. They should vary between four and six feet in length. I have some that are ten feet in length, which I employ when I examine the naked body of a patient lying upon a sofa or bed.

The Electrode.—In order to apply a current of electricity generated in a battery to the human body, various forms of electrodes are employed as termini to the rheophores. It is best to have a pair of handles to which different forms of tips may be screwed, according to the requirements of each case. The tips may be made of plain metal, or of carbon or metal covered with sponge, chamois-skin, or canton-flannel. The canton-flannel covering is the cheapest and cleanest, and may be renewed at pleasure. Each patient can thus have a clean covering for the electrode at every application. Flat electrodes of large size are useful, especially when a neutral point for the current is desired). Small tips (motor-point electrodes) are generally employed to direct the current to some special muscle or group of muscles.

The wire brush is employed chiefly in cases where anæsthesia exists. It is the only electrode that is used dry.

Most manufacturers advertise a case of electrodes designed especially for the application of electricity to different organs. Selections may be made from these as desired. I have personally devised several modifications of electrodes which are manufactured by Waite & Bartlett.

A practical point may be mentioned here, viz., that the negative electrode (*cathode*) is the most painful to the patient, and produces the greatest chemical action. It is a well-recognized fact that a bullet does the most damage at its point of escape from any dense substance which it has penetrated. In the same way an electric current produces the most profound effects at its point of escape from the body—i. e., the negative pole. It is not uncommon to see a reddening of the skin, and even vesication, produced by a strong current at the negative electrode if kept too long in contact with it. The cathode is the "stimulating" or "irritating" pole (if such an expression is admissible) of a galvanic battery. The anode is, by contrast, the "sedative" pole.

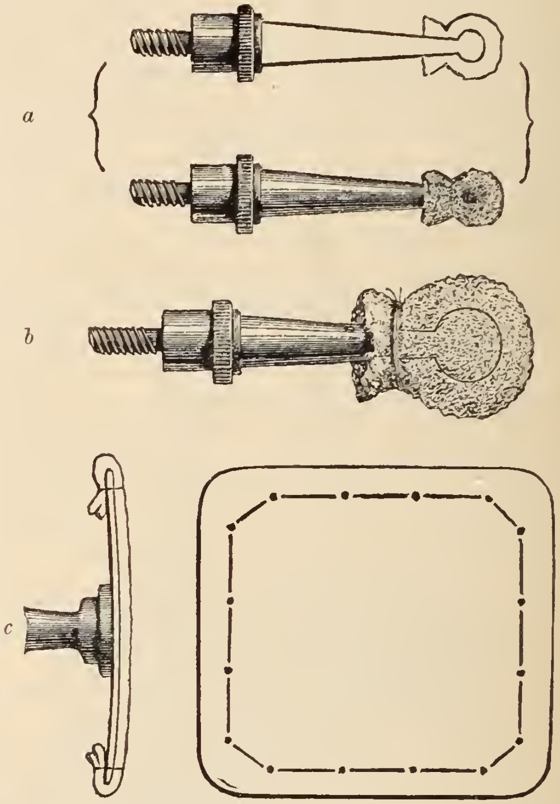

Fig. 25.—Various forms of electrodes (natural size), adapted to a screw handle, not shown in the cut. (After Erb.) *a*, the "fine" electrode or smallest size; *b*, the so-called "small" electrode; *c*, the "medium" electrode. All electrodes are covered with sponge (as in *a* and *b*) or flannel or chamois skin (as in *c*).

For the treatment of special forms of disease by electricity, different types of electrodes have been designed by various neurologists. A device of my own, which simplifies electro-diagnosis and enables a medical observer to watch and compare the effects of electrical currents of definite strengths upon muscle- and nerve-reactions of opposed limbs simultaneously, will be described farther on. By means of this device the physician may sit at a key-board and excite different sets of muscles separately or simultaneously (without moving from his chair) by touching certain keys, as if playing the piano or working a type-writer. I have found it, moreover, of great assistance in demonstrating before large audiences the action of nerves and muscles upon a living subject.

Time will not allow of a detailed description of the electrodes shown you, most of them being simple devices, which really require but a limited experience to use them in a proper way.

When you purchase a battery, two sponge-covered electrodes will probably be sent with the instrument. It is advisable, for the following reasons, to remove the sponges: 1.

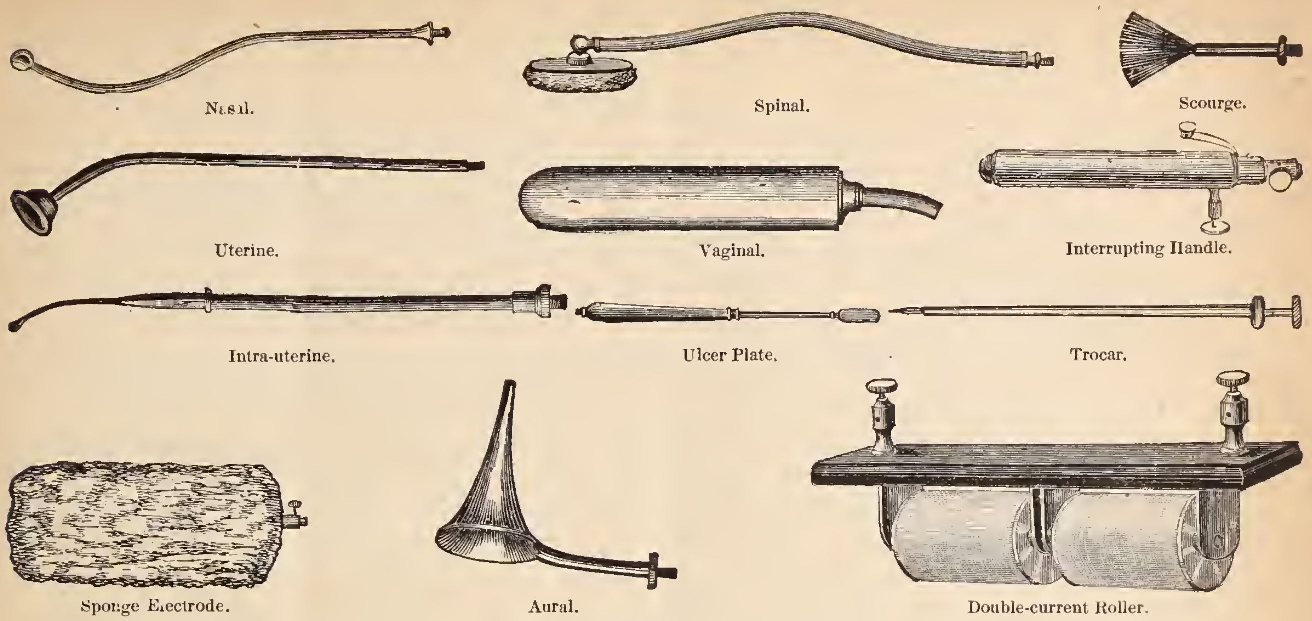
Nasal. Spinal. Scourge.
Uterine. Vaginal. Interrupting Handle.
Intra-uterine. Ulcer Plate. Trocar.
Sponge Electrode. Aural. Double-current Roller.

Fig. 25.—Various Forms of Special Electrodes.

Cases have been reported where disease has been transmitted by sponge-covered electrodes. 2. In case the metal electrodes become oxidized, they can be readily cleaned. 3. When employed upon a patient's body, absorbent cotton, wet in salt water, can be placed upon the clean metal, and a piece of moistened canton-flannel may then be wrapped over both and fastened to the handle with a rubber band, thus insuring *absolute cleanliness* and *perfect conduction of the electric current.*

Patients of delicate sensibilities rebel against the use of the sponges which for months or even years have been employed in case after case requiring electricity. Who of you would patronize a barber-shop where one towel constituted the entire outfit of linen? Is it right to ask of patients what you would yourself condemn? Furthermore, how can electrodes covered with dirt and other deposits under a sponge be perfect conductors of electricity? Absorbent cotton and canton-flannel are far cheaper than sponges, and can be thrown away after being used.

(*To be continued.*)

Original Communications.

THE THERAPEUTIC SIGNIFICANCE OF THE CERVICAL FOLLICLES.*

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The observation of a large number of cases of uterine disease in public as well as in private practice has gradually led me to the conviction that the glands and follicles which constitute a portion of the anatomical structure of the cervix uteri play a far more important *rôle* in this class of cases than is generally admitted by authorities, and that a proper recognition of this fact will enable the judicious practitioner to attain a more positive diagnosis, prognosis, and especially a more strictly curative treatment. It is a well-recognized fact that a large proportion of the uterine cases which come under the observation of the general practitioner are classed as inflammation and catarrh of the body and neck, and that of this class the vast preponderance are connected chiefly with the cervix.

The term uterine catarrh, cervical or corporeal, is not strictly scientific, but it may be applied, as is the term "nasal catarrh," as indicating a complexus of symptoms originating in certain functional but more frequently organic changes. The physician who would treat a uterine catarrh or leucorrhœa by the injection of astringents, without investigating and searching for hypertrophies, a cystic gland degeneration, or cellulitis, would be as reprehensible as the surgeon who would treat a nasal or pharyngeal catarrh without regard to the existence of hypertrophies or neoplasms within the cavity. The treatment of the latter has in recent years been greatly simplified, because specialists have evinced the true scientific spirit in disseminating their valuable experience and in devising instruments and procedures which intelligent general practitioners have not found difficult to comprehend and utilize.

In gynæcological practice much has been accomplished in the same direction. Among recent writers in this country Dr. T. A. Emmet has been conspicuous in simplifying the treatment of a large proportion of uterine diseases, which have hitherto been the bugbear of the general practitioner, by pointing out the fact that a prominent element in the semeiology and ætiology is to be sought in the existence of some change in the circulation of the pelvic connective tissue outside of the uterus.

As a contribution to the simplification of gynæcological therapy I offer the suggestion that a more thorough investigation of the part played by the glandular structure of the cervix uteri will lead to a correct appreciation of another important element in the causation of the suffering and distress for which we are constantly consulted in cases of uterine trouble.

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* Read before the Northwestern Medical and Surgical Society, June 17, 1885.

In nearly all methods of treatment of the so-called inflammatory condition—classed under the various alluring titles, metritis, hypertrophy, habitual hyperæmia, hyperplasia, subinvolution, erosions, catarrh, or what not—the cervix receives the brunt of the attack. It is cauterized, painted, swabbed, depleted, dilated, and plugged to a far greater extent than the uterus proper. And the reason therefor is obvious. It is not because the changes due to disease are so palpable and so easily demonstrated in and upon the cervix, while they are obscure within the uterine body, but because the anatomical structure of the cervix, its exposure to mechanical irritation and violence, render it more prone to take on diseased action, as Dr. Henry Bennett long ago demonstrated.

Since, then, the cervix uteri bears so important a *rôle*, and since I propose to show that its glandular structure is the chief seat of diseased action in this part, it is essential that we study with care and somewhat minute attention all that is known of the anatomy and physiology of the cervical follicles ere we proceed to investigate in what manner they become pronounced factors in the production of much of the suffering endured by women who are treated for uterine diseases.

The anatomy of the cervix had not been thoroughly studied before Tyler Smith, with the aid of Handfield Jones and other competent microscopists, investigated this subject. All the more recent authors express their indebtedness to the enthusiastic English obstetrician. Robin, Sinéty, Sappey, and Renaut in France, Lott, Leopold, and Moericke in Germany, have written upon this subject, without, however, materially enriching the stock of information bequeathed to us in the exhaustive work of Tyler Smith on "Leucorrhœa."

I have carefully studied the contributions of all these writers, in order to cull for your instruction and my own the most salient facts in the anatomy and physiology of the cervical follicles. If I offer you some trite facts in anatomy as an introductory, I ask exoneration in the desire to render the subject clear in all its bearings, and to enlist recognition of the paramount importance of every element of information connected with it.

The cervix uteri consists of connective tissue, some elastic fibers, mucous membrane, glands, blood-vessels, lymphatics, and some muscular fiber and nerves, the presence of the latter being still *sub judice.*

For the practical purposes of this paper it would be unprofitable to enter into the mooted points of the histology of the uterine cervix. We are chiefly interested in those structures whose anatomical and physiological characteristics have been the subject of repeated demonstration, and whose intimate relation to pathology and treatment is now beyond contradiction.

The most important structure in connection with our subject is the mucous membrane and its glandular ramifications. This membrane presents, as do all structures liable to great distension, numerous folds, which are arranged in a somewhat ornamental manner, appreciated even by the unsentimental anatomist in the designation of arbor vitæ, sometimes called *plicæ palmatæ.* Its color is not so dark-red as that of the mucous lining of the body of the uterus, nor is its texture so soft and velvety. If the cervix is split open longitudinally and spread out upon an even surface, four columns of rugæ are at once seen, formed by grooves running longitudinally into projecting ridges. Each one of these columns contains three or four folds, which are somewhat thicker and more numerous on the posterior surface and in the middle portions. There is a moderately well-developed submucous connective-tissue layer, which is especially voluminous on the posterior part of the cervix. In this substratum are found the mucous crypts of the cervix, many of whose mouths are seen in the utricular depressions, situated between the villi with which the rugous surface of the mucous membrane is covered. Histologically, the rugæ are simple thickenings of the mucosa.

On examining a section containing one of the longitudinal ridges above referred to, under a low power of the microscope, transverse ridges are seen quite prominent, and in each furrow there are found subdivisions into manifold rugæ, which again are divided into distinct parts, until the principal furrow or depression appears like a fine network of a multitude of crypts, which grow less and less numerous in the direction of the os uteri externum. In each one of these subdivisions forty or fifty crypts have been counted. Thus, a cervix of moderate size would show between the transverse rugæ of the columns alone, with this low magnifying power, from 2,000 to 3,000 follicular pits; but besides the fossæ between the rugæ, says Tyler Smith, the spaces between the rugous columns and the longitudinal sulci themselves are all seen to be covered by multitudes of mucous follicles. Small plicæ are everywhere visible, and these are only a repetition of the columnar rugæ on a lesser scale. If a portion containing, say, two or three of the primary ridges and depressions is examined with a somewhat higher power (18 diam.), the rugæ themselves, and even the subdividing septa, are found to be studded with mucous follicles. The crypts in the fossæ are still further divided and subdivided into double or treble the number of follicles and laminæ seen with a lower power. In a portion of the cervix comprising only three rugæ and their two interspaces, upward of 500 mucous follicles were easily counted, so that it is within the limits of moderation to say that a well-developed virgin cervix uteri contains at least 10,000 mucous follicles.

When a longitudinal section is made through the middle of one of the rugous columns and viewed laterally, the fossæ are found to *extend obliquely and deeply into the substance of the cervix, sometimes to the extent of a sixth of an inch or more, and occasionally mucous openings pass into the center of the wall of the cervix,* and may be seen there filled with the tenacious mucus proper to the cervical glands.

The mucous membrane of the cervical canal is covered by cylindrical epithelium, especially in the deeper parts, where it is provided with cilia. The epithelium is larger in the cervix than in the body of the uterus, but it is of the same size and texture in the child as in the adult. It is shorter in the protected portions, where it often is also ciliated; it rests upon a very delicate basement membrane, which is continuous throughout the fossæ and glands. Besides the cylindrical epithelium, there are found also in the glands and furrows of the mucous membrane *goblet-cells*, which are easily brought out by coloring with hæmatoxylin. The cylindrical epithelium ceases at the os externum, an oblique section showing a gradual thinning of the pavement epithelium of the outer surface of the cervix, until it disappears upon the elevations of the first rugæ nearest the os, where also the white color of the outer mucous covering gradually merges into that of the deeper cervical canal.

In the hardened section the interglandular structure often appears as if it consisted of a formless mass in which free granules are imbedded.

Besides, round and spindle cells show themselves in definite arrangement, the latter being found chiefly along the glands, vessels, and folds in band-like form, parallel with them, while in the remaining structure they are scattered. Directly under the plicæ palmatæ are also found parallel-lying spindle cells.

The folds of the mucous membrane are, especially in their deeper parts, covered by papillary projections, which are either pointed or club-shaped, and these contain vessel-loops and perhaps nerves. The glandular structure of the cervix is remarkable not only for its extent, but also for the variety of its secreting follicles. The latter are either hollow balls opening into a wide outlet, or they assume the shape of a bag or bottle with a narrow outlet, being subdivided in their interior by projecting ledges or papillæ, so as to assume a somewhat acinous form. Sappey has found the latter of such considerable size in the bottom of the crypts that they resembled in shape sebaceous glands, lined with elongated cylindrical epithelium and filled with viscid mucus. Another variety of glandular structure is the "Schlauchdrüse," a gland resembling a pipe or tube, which is found chiefly in the vicinity of the inner os, and which is distinguished from similar glands found within the body by having a relatively wide lumen—a characteristic of cervical glands.

Another variety are the so-called ovula Nabothii—a singular misnomer, which has come down and clung to us from a less enlightened anatomical era. These are found in moderate numbers in the child, as well as in the adult, as rounder transparent sacs filled with mucus. They are often formed by an atresia of their outlets, and thus really become retention-cysts, whose interior is subdivided by ledges and papillæ, like the acinoid glands above mentioned, and covered by cylindrical epithelium and goblet-cells. In the adult the Nabothian follicle is larger and more smooth in its interior, but in the child as well as in the adult it is filled with the characteristic glassy mucus. These glands penetrate more deeply into the structure of the cervix, being sometimes so deeply imbedded that they may be seen when distended by disease as pea-shaped protuberances upon the portio vaginalis. The glands of the cervical canal are surrounded by a web of vessels and connective-tissue fibers, of which the cervix has a greater quantity than the body. The bundles of connective tissue radiate like a fan toward the surface, and lose themselves in the mucous membrane. In the network formed by these bundles are situated the interglandular cells.

I have dwelt upon the minute histology of the cervix uteri with, perhaps, greater attention to details than would seem warranted in a paper which claims to discuss the subject practically. But it is my desire to bring out saliently the fact that *the cervix is a vast gland, whose peculiar structure adapts it perfectly to the performance of the functions assigned to it*, and which I now propose to discuss. In the normal uterus of a nulliparous young woman, and in children, the rich epithelial supply of the cervical mucous membrane and its follicles furnishes a secretion which, though not abundant, suffices to fulfill the object in view—viz., the lubrication of the cervical canal. It has not been determined to what variety of cell the actual secreting work may be assigned; but it is probable, from analogy, that the goblet-cells bear a large share in secretion. Wherever these cells are found in mucous membranes of other parts, they are found to secrete a mucus, which is garnered in their expanded thecæ until needed for use. Indeed, Sinéty professes to have seen the characteristic cervical mucus issue from them. Their importance is attested, too, by the fact demonstrated by Sinéty that, in a fœtus at term, examined immediately after death, they were plainly visible, and by the observations of Renaut, who found them in the lining of the Nabothian glands, mixed with cervical epithelium.

The cervical mucus oozes out as a clear, viscid, glassy fluid, consisting of mucin and striæ, which are, on account of the occasional great tenacity of the plasma, apt to be mistaken for fibrils. Cylindrical, oval, and spherical cells, in a state of mucous degeneration, have also been found either in rows parallel to the striæ or irregularly arranged, together, sometimes, with pavement epithelium from the neighborhood of the os externum. Its reaction is alkaline, and, if it comes in contact with the acid vaginal mucus, it is first coagulated and afterward slowly dissolved. In children, in virgins, and in chaste widows the secretion is much thinner and less abundant, being just sufficient in quantity to fill the cervical canal completely. At each menstrual period the tenacious plug is washed away, but is again secreted as a thin fluid a few days later, which becomes more and more viscid as the catamenial period approaches. Scanzoni has shown that the hyperæmia incident to the approach and termination of the menstrual period renders the cervical mucus less viscid. The observations of Kristeller have shed considerable light upon the physical properties and functions of the cervical mucus; they are reliable because made with great care, by means of a perineal retractor and not through a cylindrical speculum, which is apt to remove any mucus that may be hanging from the os uteri. Kristeller has shown that, in women who menstruate and cohabit regularly, the cervical mucus hangs from the uterine orifice as a stringy mass, 1 to 4 mm. in thickness and 1 to 6 cm. in length. It is, when fresh, transparent as molten glass, tough, adhesive, thread-like, and difficult to remove.

After treatment with a little acid it may gradually be twisted out of the uterus with forceps. The function of this stringy mass seems to be to entangle the spermatozoa, which abound in the semen lodged within the *culs-de-sacs* of the vagina, and, by acting as a ladder, aid their migration into the uterus. The similarity in physical and chemical properties between the semen and the cervical mucus adapts it beautifully to this purpose.

During pregnancy the cervical glands are, according to Fritsch, enormously enlarged. The secretion is, in the first stages, similar to that in the unimpregnated uterus—thin, transparent, and viscid. Gradually it becomes, owing to its retention, more inspissated. As this gravitates to the os externum, the upper portion of the canal continues to be supplied with the thinner fresh secretion, which in its turn becomes more and more viscid. At the os externum, vaginal mucus comes in contact with the plug, and pavement epithelium from this part mingles with it, both of which causes operate to render it tough and white and cheesy at this point, and so well calculated to perform the function of sealing the uterine cavity during this interesting period.

The state of comparative latency of the uterine glands during the latter days of pregnancy is preparatory to the state of their greatest activity, which follows when parturition is imminent.

The somewhat firm and tenacious plug which has so long fulfilled a useful office is expelled by the secretion which now flows upon it from above, especially as the uterine os now relaxes and becomes dilated. A large quantity of viscid fluid now pours out into the vagina. This is too abundant to be affected by the usually neutralizing acid vaginal secretion, and therefore serves to lubricate and soften the cervix and neighboring parts, vagina and vulva, and promotes the progress of the fœtus through the genital passages. This function is performed, undoubtedly, by the cervical follicles, whose secretion is stimulated by the increased activity of the entire organ. There are no glands of consequence in the vagina, and the physical and chemical properties of the vaginal mucus are not adapted to the end now in view. The lubricating fluid is of alkaline reaction and formed by a plasma in which great numbers of mucous globules are suspended and intermixed with the pavement epithelium, which comes from near the external orifice, the more delicate cylindrical epithelium from within the cervical cavity being swept away in the large mass of fluid.

After the completion of labor the cervical glands continue to secrete actively, furnishing a portion of the lochial fluid and rendering the latter unirritating and protective. This is evidenced by the fact that during its last appearance it consists almost entirely of cervical mucus, which gradually diminishes in quantity and viscidity. During involution there is only a small quantity of thin, fluid, colorless mucus of alkaline reaction found in the cervix, and the external orifice appears as empty as it does in children.

To summarize, then, the physiology of the cervical glands, it appears that their function is—

1. To lubricate and fill the cervical canal with an innocuous fluid of alkaline reaction.
2. To furnish a gubernaculum by means of which the spermatozoa may be introduced into the uterine cavity.
3. To supply an important contribution to parturition by lubricating and softening the genital passage.

The cervix uteri has now been shown in its true light as an open gland of active and important function. Being exposed to certain ætiological factors, and to vast changes in its structure and physiological action, it is not surprising that it is the *fons et origo mali* in a very large proportion of the diseases peculiar to females. We may now proceed to a consideration of the *pathology and therapeutics* of our subject. A review of the systematic division of the so-called inflammatory conditions of the uterus in our text-books presents a somewhat inharmonious impression, some writers regarding metritis and its subdivisions as distinct diseases, others declining to recognize inflammation as an essential pathological factor, and a third class occupying a middle ground.

When the symptoms and pathology of the chronic inflammations of the uterus and its lining membrane are studied in the works of the first-mentioned class of authors, a very striking similarity is at once discovered. Especially are very nearly the same symptoms reiterated under each head of metritis. Hence it has been decided as a wise course by the more conservative and practical gynæcologists to group the chronic diseases of the uterus—be they inflammation, subinvolution, engorgement, hypertrophy, or hyperplasia, etc.—according to the structure which furnishes the chief symptoms in a majority of cases, and to which treatment may be most effectively addressed—viz., the mucous membrane. Important as the proper recognition of pathological changes may be, invaluable as a systematic division of uterine diseases, based upon these pathological changes, may be, successful treatment is, after all, the goal to which our best efforts are directed. Especially does it become imperative to simplify the treatment of these diseases, which are so constantly under the care of the general practitioner, in such manner that he may be enabled to cope with them in their earliest possible stages and thus prevent much of the suffering which neglect entails upon women.

In order to attain this consummation, I propose to show that in nearly all the more common uterine affections the mucous membrane and its follicles bear the most important *rôle*, and that their treatment may be rendered effective and satisfactory so soon as this fact is fully appreciated. As an illustration of this point, I may cite Schroeder, whose work is one of the most systematic text-books which enters fully into the pathology of uterine diseases. Like many other writers, he brings the cervical follicles and mucous membrane into prominence, without especially dwelling upon their significance as a most important factor in the pathology and treatment. In speaking of chronic metritis, he places at the head of all therapeutic measures "local bloodletting by the scarification of the portio vaginalis." "If swollen follicles are visible," says he, "they should be punctured, and thus the inflammatory irritation will be doubly diminished, through the emptying of the follicles and the bleeding. Even when no swollen follicles are visible, we do not rarely see the clear secretions from underlying follicles oozing out with the blood." Here we have a disease over whose real classification there has been much earnest discussion on account of pathological differences—a disease in which the structures, supposed to be chiefly or entirely involved, are far removed from the cervical follicles, and yet a practical gynæcologist and scrupulously systematic teacher acknowledges their importance by suggesting treatment addressed to these apparently insignificant structures as dividing the honor of chief remedy with local abstraction of blood.

If we pursue the study of other common uterine diseases with other systematic writers who lay the necessary stress upon pathology, we find that the cervical follicles are constantly referred to as prominent elements in pathology, but that, unfortunately, this prominence is lost sight of when the treatment is discussed. It is this point which I desire especially to emphasize.

By far the large preponderance of the diseases in question are purely or partially cervical, presenting themselves under the classification of endometritis cervicis, erosions, ulcerations, granulations, catarrh of the cervix, subinvolution, etc., according to the author's fancy, but having in common one prominent symptom—a discharge from the genital passages, which by common consent has received the designation catarrh, popularly termed leucorrhœa or whites. Every practitioner who has treated this class of cases is aware how obstinately they resist the most approved treatment, how frequently they recur when we least expect it, and when we have congratulated ourselves upon a successful issue. Indeed, few physicians, be they general practitioners or gynæcologists, will deny that these cases of uterine catarrh are the bane of their professional lives.

If the catarrh is purely uterine, its treatment is to be carried out on the same principle as that which I advocate for the more frequent form, cervical catarrh—viz., the recognition of the paramount significance of the follicles of the uterine body. That a majority of uterine catarrhs are due to cervical disease has often been demonstrated, and I propose to establish, as clearly as lies in my power, the pathological significance of the follicles in these cases, and to point out that the only speedy and permanent cure is to be attained by directing our treatment to these follicles, which not only furnish the discharge, but which form the basis or groundwork of obstinate breaches of surface, and of the engorged and inflammatory condition of the mucous membrane of the cervical canal. Contributions to the pathology of these diseases have been almost exclusively made by German investigators, among whom Ruge and Veit, Schott, Prochnowick, Edward Mayer, and Fischel are the most prominent. Systematic writers have freely acknowledged their indebtedness to these painstaking students of common yet hitherto greatly misunderstood diseases, and I am also indebted to them for many pathological data.

Catarrh of the cervix not directly traceable to surface erosions of the portio vaginalis is probably the most obstinate to cure. It has been shown by Schroeder and others above quoted that in these cases we have a puffed, livid, and softened condition of the mucous membrane lining the canal, together with an expansion of the follicles whose intimate connection and interlacing with the mucous lining I have endeavored to impress in the first part of my paper. The anatomical structure of this lining membrane, its large extent, due to furrows, infoldings, depressions, and even clefts, all of which are lined with a delicate epithelium in single layer, render it peculiarly liable to all the diseases of similar structures. Into the ætiology of the diseases of the cervical mucous lining we can not at this time enter. It is essential to our purpose to bear in mind the fact that its peculiar reduplication, whose extensive surfaces receive the open months of thousands of follicles, offers a ready solution of the obstinacy of cervical catarrh.

When the mucous membrane of the cervical canal becomes irritated, hyperæmic, or inflamed from any cause, there ensues an increase of its delicate epithelial cells, which, owing to the want of space and the fact of their standing in a single row and not being layered, are pressed together more and more closely. The irritation is conveyed to the gland structure, whose own lining with cylindrical epithelium has been shown to be continuous with that of the deeper recesses of the mucous lining; the ducts of the glands are compressed by the proliferation of cell elements; their lining epithelium undergoes the same changes, their secretion is therefore increased; a gradual distension of the follicles ensues, which is enhanced later by the blocking of many outlets; they burst, pouring their accumulated contents out upon the surface, together with dead and dying epithelium. Some of the larger glands, the Nabothian follicles for instance, whose walls are more resisting, continue to fill without being able to discharge. Cysts are thus formed, which by their pressure irritate the neighboring parts, especially the interglandular connective tissue. These sometimes press their way through the connective tissue and appear on the outer surface of the portio vaginalis, where they are either spontaneously or artificially emptied, collapsing and shriveling up or forming the groundwork of ulcerations.

It is only necessary to keep prominently in view the intricate windings and furrowing of the mucous lining of the cervix, together with its enormous gland-supply hidden beneath it and penetrating to a considerable depth into the connective tissue, to understand clearly the picture I have briefly drawn of its condition in catarrh of the cervix. Bearing in mind these anatomical and pathological data, is it at all remarkable that the ordinary methods of treatment are futile? Of what avail can be applications of iodine, carbolic acid, and astringents, more or less lightly painted or swabbed upon the superficial portion of this immense and deep-seated area of disease, whose ramifications extend far beyond their reach? The dead epithelium may thus be shriveled, provided the tenacious secretions permit the penetration of such remedies, which is questionable. A desiccated surface may thus be left, which may for a time impede the outflow and perhaps check the secretion. The gland structure proper is never reached by this medication; the outermost outlets are probably subjected to its influence, while the deeper-seated secreting surfaces, hidden beneath masses of proliferated cells in the recesses and clefts which are rendered doubly inaccessible by their swollen condition, escape. Nitric and chromic acid have perhaps been the most successful medicinal agents resorted to in this treatment, because they actually destroy layer after layer of epithelial and gland structure, until the bottom of the latter is reached. The same result has been attained by the actual cautery. But these are slow and uncertain processes; we can not appreciate how far we penetrate; the detritus is slowly cast off; the entire proceeding is so indefinite that the modern surgeon, who is accustomed to rapid, simple, and triumphant results, must seek for a more rational method. The modern surgeon would characterize an attempt to remove carious bone or fungoid masses from a fistulous canal by astringents and caustics as an irrational procedure; he would at once resort to the sharp spoon, carefully cleansed with antiseptics, remove the obnoxious masses, wash the cavity with antiseptics, and dress it with iodoform or other permanent germicide. The same rational course will prove effectual in the treatment of chronic uterine catarrh, be it corporeal or cervical. The diseased and proliferating structures must be removed in order that the healthy surfaces be enabled to undertake reparative action.

In purely uterine catarrh the diseased surface is larger, and the glandular structure is more superficial. Moreover, it has been shown that the latter atrophies more rapidly, and therefore breaks down more readily under mechanical treatment. Hence the dull curette often is sufficient to remove the diseased surface together with the degenerate glandular structures. In those cases in which hæmorrhages play an important *rôle*, curetting has long been successfully applied. I plead for an extension of this procedure to those cases in which profuse leucorrhœa exists, flowing from the uterine cavity.

(*To be concluded.*)

THE TREATMENT OF STRICTURE OF THE URETHRA.*

By FRANK H. WHITTEMORE, M. D.,
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So much has been said and written in recent years in regard to the treatment of stricture of the urethra, that one who has not had an opportunity to make a special study of the subject must often be embarrassed in selecting a plan of treatment adapted to any particular case. And yet nearly every general practitioner has several of these cases come to him each year for treatment. Their frequent appearance in my own consulting-room has compelled me to devote considerable time to the study of the subject. It is my purpose in this paper to present some observations, from the standpoint of the practical surgeon, upon those methods of treatment which have proved of most value in my own practice, and which seem to me likely to give the best results in the hands of the general practitioner.

On account of their comparative rarity, and in order to avoid extending the length of the paper unreasonably, all consideration of traumatic strictures will be omitted, and the discussion will be limited to those gradually forming strictures which are the result of a chronic inflammation of the urethral mucous membrane.

The most constant symptom of stricture is gleet. Conversely, gleet ordinarily depends upon stricture, and usually stricture of large caliber. A man can not have a urethral discharge lasting over six weeks without damaging his urethra. After a gonorrhœa has lasted six weeks the inflammatory process is becoming localized, and a thickening of the peri-urethral tissue is almost inevitable. At the same time I do not consider that every man who presents himself for treatment with chronic urethritis and a moderate coarctation of the urethra has an organic stricture. It may be merely a thickening which, if allowed to go on, will develop into an organic stricture.

Another very constant symptom of stricture, and one which is generally present in the forming stage, is the dribbling of urine after the act of micturition is apparently completed. This is due to a loss of the normal elasticity of the urethra at the point where the deposition of plastic material is taking place, and the inability of the compressor urethræ muscle to overcome the abnormal resistance. A portion of the urine is consequently retained behind the coarctation, and subsequently escapes drop by drop.

Only old strictures, as a rule, cause symptoms in the absence of a gleety discharge. Such strictures may cause a variety of symptoms. Frequent micturition, if present during the day, should lead the surgeon to suspect stricture. He should also inquire if the stream is small, forked or twisted, if the urine falls drop by drop, if there has been retention, and finally if the patient has had gonorrhœa. These cases are generally strictures of small caliber, which may easily be detected.

I have known an old tight stricture, of ten or fifteen years' duration, to have been treated, as chronic inflammation of the bladder, with buchu, alkalies, and suppositories, by a physician of the highest reputation. When a patient has chronic cystitis, it is always well to consider what causes it. Inquire in regard to urinary symptoms, and examine with a suitable instrument. It may be arrested in the deep urethra. Such cases are not uncommon.

In strictures of large caliber it is a nice point to tell where coarctation is taking place. It is impossible to do this with a steel sound, as most men try to do. This is why so many men fail to find a stricture; why, consequently, so many strictures go untreated; and why, furthermore, it is so common for a man who presents himself for treatment with a gleet to exclaim, after a stricture is detected, "Why, Dr. So-and-so told me a couple of weeks ago that I had no stricture."

In order to detect a stricture of large caliber, it is necessary to use either a urethrometer or a set of metallic or flexible bulbous bougies. I prefer the bougies. My own experience, moreover, has been that a moderate degree of coarctation is more readily detected by the flexible instruments than by the olive-headed bougies of Otis. Of course it is not difficult to detect a stricture of small caliber with any instrument. It is, however, difficult for a man who has not used both to realize what a difference it makes whether one uses a steel sound or a bulbous bougie for the detection of a stricture of large caliber. Repeatedly men have come to me with chronic gonorrhœa or gleet, and have told me that they had been examined by a surgeon, and assured that they had no stricture. I have then tried a flexible bulbous bougie, and seen it arrested in less than two inches from the meatus. Then I have tried a solid blunt steel instrument, and passed it right through the stricture without the least resistance. But it is these very strictures of large caliber which it is important to detect and cure before they become organized.

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* Read before the Connecticut Medical Society, May 28, 1885.

When a patient comes to you in whose urethra you suspect the existence of a stricture, you first measure the circumference of the penis; then, bearing in mind the ratio which this bears to the caliber of the normal urethra, you select a bougie of such a size as the measurement shows that the meatus ought to admit. Having well oiled the instrument, putting the penis gently on the stretch, you carefully pass the bougie along the urethra. If it enters the bladder without encountering any resistance, there is no stricture. If a stricture exists, the bougie will be arrested. Then take a smaller instrument and repeat the manœuvre and so continue until you find one which will pass the point of obstruction. This shows the caliber of the stricture. Then, recognizing the well-known fact that where there are several strictures the nearer the meatus the larger the caliber of the stricture, the examination is continued in the search for other strictures, a smaller and smaller instrument being used in order to detect narrowings nearer and nearer the bladder.

Having determined the existence and location of one or more strictures, do no more at this sitting. Warn the patient that the next act of micturition will probably be attended with some pain. Then, having given him such directions in regard to his hygiene and having prescribed such constitutional treatment as his individual case requires, direct him to return in three or four days for further treatment.

Every case of stricture should be treated as a whole. The physical condition of the patient should be studied. Most of these patients are run down and in an anæmic condition, due partly to the local irritation and suppuration, and partly to mental worry. Such patients need iron and general tonics.

Like every other inflamed organ, the urethra which is the seat of stricture should be placed at rest as far as possible; all sources of irritation should be removed. The urine should be rendered as unirritating as possible. All articles of food which have a tendency to cause crystals of uric acid to be present in the urine should be avoided. The diet should, therefore, be mild and unstimulating, and the amount of nitrogenous food ingested should, as a rule, be limited. The use of all kinds of alcoholic stimulants, including beer and ale, should generally be stopped. Coffee also should be omitted. Smoking, in my experience, has proved as injurious in some cases as alcohol, and should be forbidden.

In strictures of large caliber, with gleet, it is necessary to neutralize the urine with alkalies. The fluid extract of kava-kava I have used a great deal of late, and in cases attended with a gleety discharge it has proved beneficial. There is a great difference in urethræ, some being very irritable. Bromide of potassium will do a great deal for these cases. Given in full doses for a few days, it blunts the sensibility of the urethra. A combination of bicarbonate of potassium, kava-kava, and hyoscyamus is often very effective by rendering the urine alkaline, by lessening urethral irritability, and by diminishing the gleety discharge.

Finally, the patient should be warned to be as pure in word, thought, and action as possible. If a single man, he should abstain absolutely from sexual intercourse. The society of lewd women and lascivious thoughts and conversation should always be avoided. In this way nervous and vascular activity about the genital organs may be greatly diminished.

When the patient returns, if his meatus is not up to the required standard, it must be enlarged. It should be a golden rule in surgery that all strictures of the meatus must be cut, for you can not stretch them. This may be done in several ways, some men preferring a bistoury, some scissors, and others a urethrotome constructed especially for the purpose, the best one, perhaps, being that of Civiale. My own practice is to use the latter. The incision should always be made downward in the floor of the urethra. In performing this operation great care should be used to make the opening sufficiently large to admit a bulbous bougie of a size a little larger than that which our measurement of the penis has shown that the urethra should admit, in order to make allowance for the contraction which takes place in healing; but the operator should also be cautious not to make the incision unnecessarily large, lest he create an artificial hypospadias. If too large an opening is made, it subjects the patient to the exceeding inconvenience of not being able to pass his water in a compact stream. In some instances, where a perhaps too enthusiastic follower of the teachings of Dr. Otis has, in the excess of his zeal, carried the incision beyond the bounds of nature and of reason, the sufferer has been obliged to sit down upon a vessel or a water-closet to urinate. In one or two cases which have come to my knowledge such patients have applied to the surgeon with a view of having a plastic operation undertaken for the relief of the deformity resulting from this barbarous mutilation.

The hæmorrhage following this operation is sometimes quite abundant, but ordinarily stops spontaneously in a few minutes. If, however, it does not do so, it can generally be arrested by wrapping a little cotton around a probe and applying some tincture of iodine to the cut surfaces. The hæmorrhage having ceased, a piece of lint should be inserted within the meatus and allowed to remain until carried away by the stream of urine. This serves the double purpose of preventing union of the cut surfaces, and also tends to prevent recurrence of the hæmorrhage.

There are several ways in which the patulous condition of the meatus may be maintained. You may pass in every day a full-sized bulbous bougie, or a conical steel sound, or a so-called fossal sound, made especially for this purpose. I am in the habit of employing the latter. Experience has shown me that, if an instrument is not passed in every day, granulations grow so rapidly in this situation that in two days it will be impossible to pass it without subjecting the patient to a great deal of pain—much more than where it is passed every day. It is not generally necessary to confine the patient to the bed or to the house after this operation. He should bathe the parts twice a day in hot water, and should not walk much for a day or two. In this way it is possible to obviate a tendency to inflammation at the site of the operation, and also in the adjacent parts, as the lymphatic glands. Should the wound in healing show a disposition to become a little sloughy, it is well to dust over the surface a little iodoform or bismuth.

When the wound of the meatus has healed, which usually occurs in about two weeks, the gleety discharge, for which the patient sought treatment, very often has stopped. If it has not, we again explore the deeper portion of the urethra, using as before the flexible bulbous bougies.

Many strictures are reflex in character, and entirely disappear when the meatus has been enlarged. The necessity of relieving a contracted meatus before attending to a stricture of small caliber in the deep urethra is illustrated by the following case:

The patient had gleet, and, five inches from the meatus, a so-called impassable stricture, through which a filiform bougie could not be passed. He had also a stricture of large caliber in the pendulous urethra, and a small meatus. He could only pass a little water, drop by drop, and I feared retention. I at first attempted to pass a filiform instrument through the stricture, but failed, although a No. 14 American could be easily passed down to it. Each time I saw him I persisted in the attempt as long as I dared, fearing lest inflammatory swelling in the urethra should be excited. In the mean while he was kept in bed and received appropriate constitutional treatment. Having made a thorough trial of this plan of treatment, and being unable to reach the bladder, I threw aside the filiform instruments, ignored for the time being the deep stricture, and gave him a meatus which would admit a No. 21 sound. When the meatus had healed, a full-sized conical steel sound was passed down to the face of the stricture, and gentle and continuous pressure was made. This was repeated once in four days. At the third trial the instrument passed immediately into the bladder.

After the meatus has been sufficiently enlarged, should other strictures exist, the question of treatment at once involves a determination of the comparative merits of gradual dilatation and internal urethrotomy. My own preference is for gradual dilatation, which I carry out in the following way: Having determined the caliber of the stricture, a sound, of such a size as the bulbous bougie has shown that it will admit, is introduced. If this passes easily, the next size larger may, if possible, be gently passed through the stricture. Inasmuch as strictures are rarely encountered beyond the triangular ligament, it is not necessary to pass a sound beyond this point. By avoiding this we not only do away with the most distressing part of sounding, but also lessen in no small degree the danger of exciting epididymitis, prostatitis, and cystitis. Some surgeons advise that the instrument should be left in the urethra for five minutes or even longer. My own conviction is that when the instrument has passed the strictured point it has accomplished all that it can do. I consequently withdraw it at once, believing, as I do, that any instrument in the urethra produces irritation, and that, the longer it is allowed to remain there, the greater is the irritation produced. By the simple pressure in passing an instrument through the stricture all the good possible from this plan of treatment is effected. The way in which the use of a sound benefits a stricture dependent upon the organization of plastic material is in no way analogous—as many seem to suppose that it is—to the action of over-distension in relaxing muscular spasm. In view of both of these considerations, straight steel sounds are both useful and convenient. In treating strictures of the urethra it is a good rule never to employ a steel instrument of smaller size than a No. 9 American, on account of the great danger of making a false passage. Furthermore, whenever, in introducing instruments into the urethra, blood is drawn, it is time to stop.

In regard to the frequency with which sounds should be introduced into the urethra for the cure of stricture there is a considerable diversity of practice among surgeons. The older the stricture, the more firmly organized has become the plastic material, and, in consequence, it requires less frequent introduction of instruments. These cases of stricture, which we will designate as strictures of small caliber—using that term to designate strictures which will not admit a No. 9 bougie—will improve faster by *not* introducing an instrument more often than once in six, seven, or even eight days. The exact interval appropriate for each individual case can only be learned by observing the effect upon that case of introductions at different intervals. As a rule, it is poor surgery to introduce an instrument into an old, firmly organized stricture more frequently than has been indicated. If a sound is introduced every day or two, it causes inflammation or swelling, and you can not tell how the dilatation is progressing. In treating strictures of large caliber, which, as a rule, are not so firmly organized, and in which, as a consequence, there is not so much vascular reaction, the introduction may be repeated once in four days. Practitioners do not, it seems to me, appreciate the value of gradual dilatation because they do not observe carefully enough the effect of a single introduction of a sound.

At the next visit of the patient, the largest instrument which passed through the stricture easily is again passed. Then the next size larger is tried. If this is grasped, or tightly held on withdrawal, no more is to be done at this time. Should it pass easily, we again try a still larger one. Usually it will not be possible to use an instrument more than one size larger than that previously used. At each succeeding visit the same plan is followed of first introducing that instrument which was introduced last at the previous visit. The size of the instrument is thus gradually increased until the full caliber of the urethra has been reached. When this has been attained it is necessary to continue to pass the full-sized instrument at such gradually increasing intervals as experience shows are not so long as to permit so much contraction, at the point where the stricture existed, as to render the introduction of the instrument at all difficult.

The plan of treatment thus outlined has, in my experience, proved uniformly successful. In none of the cases which have fallen under my observation have I had occasion to have recourse to internal urethrotomy, perineal section, or electrolysis. Divulsion I have used only in some half-dozen cases of traumatic stricture, the consideration of which has been purposely excluded from the discussion. I will now state briefly why I do not use one of the other methods rather than gradual dilatation.

Perineal section is undoubtedly indicated in some cases of impassable stricture, particularly when complicated by sinuses. But I have been so fortunate, up to the present time, as not to meet with any case in which I have not been able, by the exercise often of considerable patience, to finally pass the stricture, and eventually to remove the obstruction and see the sinuses close up.

Electrolysis requires for its performance a variety of expensive apparatus which easily gets out of order, and is hardly practicable except in the hands of an expert in electrical treatment. In the short time since its introduction to the attention of the profession it has not been sufficiently simplified to be available for the general practitioner. Any cases, therefore, in which it may seem to be indicated should, for the present, be sent to the electrologist.

In regard to internal urethrotomy, which has a few earnest advocates, I have but little to say. In operations upon the urethra, the best results, as regards freedom from disagreeable and even dangerous complications, will be obtained by him who uses the minimum of violence. Furthermore, it is a rule of practice with me, in the treatment of any surgical lesion, to always select a method of treatment which, while its final result is satisfactory, is at the same time absolutely free from danger, in preference to one which is unquestionably attended by no inconsiderable risk. Gradual dilatation, in almost every case, gives favorable results, and may be carried on with perfect safety and without interfering with the ordinary business of the patient. Internal urethrotomy, on the contrary, always necessitates the confinement of the patient to his bed for several days. It is not infrequently followed by hæmorrhage, suppression of urine, septicæmia, extravasation of urine, and perineal abscess. Nor can the fact be overlooked that instances of death following the operation are occasionally reported, and, considering the tendency among medical men to report favorable cases and to say nothing of unfavorable ones, it is but fair to presume that the actual mortality is much greater than is generally supposed. Moreover, the operation does not effect a complete cure, but the passage of a sound at regular intervals is just as necessary as after treatment by gradual dilatation. Now and then an old, very resilient stricture is met with which is made worse by attempts at dilatation, or one in which bladder symptoms are so urgent, in consequence of long-continued obstruction, that prompt relief is necessary. Urethral fever sometimes follows attempts at gradual dilatation in cases of this kind, which, however, are more apt to be seen in metropolitan hospitals and dispensaries than in private practice. Internal urethrotomy should, therefore, be reserved as a last resort for cases in which other, less dangerous, methods of treatment, after repeated trials, have failed, or in which immediate relief is imperatively demanded. I am thoroughly convinced that such cases are exceedingly rare.

Finally, I wish to emphasize a few points which I consider of especial importance:

First. Constitutional treatment should be employed in every case.

Second. If the meatus is small, enlarge it.

Third. Do not use the sound too frequently.

Fourth. Do not keep it in the urethra too long.

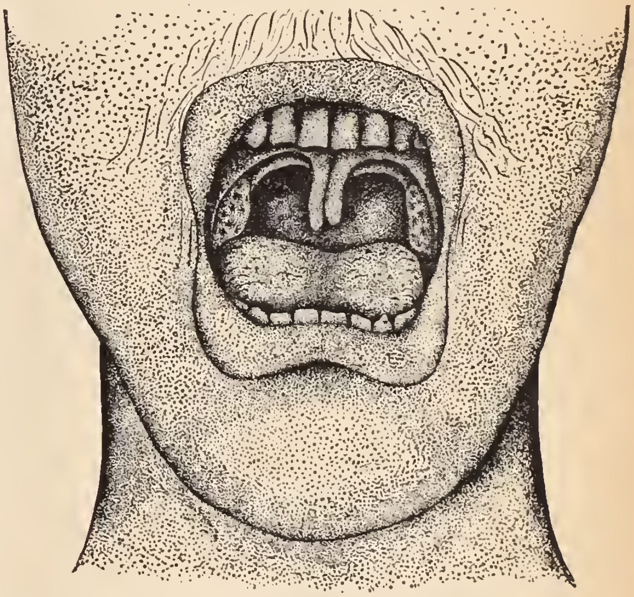
Fifth. Do not introduce it too far.

Sixth. Internal urethrotomy is occasionally, though rarely, necessary.

TWO UVULÆ IN A MAN.

By R. W. SHUFELDT, M. D.,
U. S. ARMY.

Quite recently I had occasion to examine the pharynx in the living human subject. The individual was a male of about twenty-three years of age, and, as near as I could ascertain, in fair condition so far as his general health was concerned. After his head had been placed in the proper position and light, with mouth open, so that I could properly investigate the structures to be found at the posterior aspect of this cavity, my attention was immediately attracted to the peculiar appearance presented by his *velum pendulum palati* and its median appendage.



This latter, instead of being single, as we well know to be normally the case, was evidently double, and, quite naturally, the first thing that came into my mind was, that the subject had at some time in his life submitted to the operation known among surgeons as staphylorrhaphy for the restoration of fissured palate.

Upon questioning the man, however, I found that he was perfectly ignorant of the condition in question, and was absolutely sure that he never had been in the hands of a surgeon for any such purpose. My curiosity now thoroughly awakened, I proceeded to make a careful examination of the parts involved. With the index-finger of my right hand, holding the subject's head steady with my left, I explored the posterior border of the palatine bones. This at once convinced me that they were perfectly united in the median line, and I could likewise easily detect the apophysis formed at the union of their inner and posterior angles, described by anthropotomists as the posterior nasal spine. A careful inspection of the curtain of the soft palate discovered no deficiencies in it, or faint cicatrices as evidences of perhaps the former interference of the surgeon. On the contrary, the structure was broad and ample, and occupied its usual position as seen in normal subjects.

With the aid of a dissecting probe, I now examined the largely developed and double uvula, the appearance of which is faithfully shown in the drawing, which I made at the time and here offer with the present paper.

I found each appendage fully as large, both as to length and caliber, as the uvula usually is; they were united, however, for their upper two thirds, where they came in contact in the median line—a union that would not be suspected at first glance, the structure being at rest. For the remaining third, each was perfectly free and cylindrical, the right appendage being perceptibly longer than the left one. Properly stimulated at their extremities at the same time, these uvulæ contracted upward in unison; the same was attempted by a single one, if its extremity alone was irritated.

After carefully weighing in my mind all the facts presented, I came fully to the conclusion that a dissection of these uvulæ would have demonstrated the presence in each of them of a double muscular strip or, what has been improperly called by human anatomists, an azygos muscle.

The literature of such subjects not being available to me, I am unable to state anything in regard to the history of this interesting anatomical anomaly, or even say whether or not it has ever been noticed by anatomists before. In any event, I can hardly believe it to be a deviation from the normal structure of very common occurrence; indeed, I must think it a rare one, and I can only trust that my description of it, together with the accompanying drawing, may be of interest to those who collect the histories of such anomalies as they occur among vertebrates.

May 20, 1885.

Book Notices.

Kirkes's Hand-book of Physiology. By W. Morrant Baker, F. R. C. S., Surgeon to St. Bartholomew's Hospital, etc., and Vincent Dormer Harris, M. D. Lond., Demonstrator of Physiology at St. Bartholomew's Hospital. Eleventh Edition, with nearly Five Hundred Illustrations. New York: William Wood & Co., 1885. 2 vols. Pp. ix–373; vii–378.

The publishers are to be congratulated on the excellent work displayed in these volumes. The illustrations are, almost without exception, clear and satisfactory, and the type is good. Kirkes's Physiology is too well known to require an extended notice. Under the judicious editorship of Mr. Baker it has won and maintained a front rank in England, and we are glad that it has at length been presented in a form which can not but be attractive to American readers. The combination of anatomy and histology with physiology, upon which English teachers always insist, is one that can not be too strongly commended.

The present edition will be found abreast of the latest researches, and, while not laying claim to the dignity of an extended treatise, it leaves few of the more abstruse problems of the science untouched.

The chapter on "The Relation of Life to Other Forces," once placed at the beginning of the book, is now wisely removed to the end. It was hardly a fitting introduction to an elementary treatise, and was calculated to plunge the student into a number of perplexities at the outset, with which he is better prepared to contend at the end of his course. The sections on histology are, as before, concise, yet sufficiently comprehensive. The new drawings, of which there are several, are carefully executed.

BOOKS AND PAMPHLETS RECEIVED.

A Practical Treatise on Urinary and Renal Diseases, including Urinary Deposits. Illustrated by Numerous Cases and Engravings. By William Roberts, M. D., F. R. S., etc., assisted by Robert Maguire, M. D. Lond., etc. Fourth Edition. Philadelphia: Lea Brothers & Co., 1885. Pp. xvi–33 to 628, inclusive.

Diagnosis and Surgical Treatment of Abdominal Tumors. By Sir Spencer Wells, Bart., etc. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. vii–216. [Price, $1.50.]

A Treatise on Asiatic Cholera. Edited and Prepared by Edmund Charles Wendt, M. D., etc., in association with Drs. John C. Peters, of New York; Ely McClellan, U. S. A.; John B. Hamilton, Surgeon-General, U. S. Marine-Hospital Service; and Geo. M. Sternberg, U. S. A. Illustrated with Maps and Engravings. New York: William Wood & Co., 1885. Pp. xiii–403. [Wood's Library of Standard Medical Authors.]

A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M. D., F. R. C. P., etc. Fourth American from the Fifth English Edition. With Notes and Additions by Robert P. Harris, M. D. With Three Plates and Two Hundred and One Illustrations. Philadelphia: Lea Brothers & Co., 1885. Pp. xxxv–34 to 663, inclusive.

Urinary and Renal Derangements and Calculous Disorders. Hints on Diagnosis and Treatment. By Lionel S. Beale, M. D., etc. Philadelphia: P. Blakiston, Son & Co., 1885. Pp. 356. [Price, $1.75.]

The Regimen to be adopted in Cases of Gout. By Dr. Wilhelm Ebstein, Professor of Clinical Medicine in Göttingen. Translated by John Scott, M. A., M. B., etc. London: J. & A. Churchill, 1885. Pp. 68.

Many Drugs: Few Remedies. By Geo. T. Welch, M. D., Keyport, N. J., Member of the Monmouth County Medical Society, etc. [Reprinted from the "Medical Record."]

Dr. G. Beck's therapeutischer Almanach. 12. Jahrgang, 1885. Des Taschenbuches der neuesten Therapie IV. Bändchen, 3. Heft. Bern: Schmid, Francke, & Co., 1885. Pp. 82.

Dott. Pietro Panzeri.—Risultati di cure operative per ginocchio valgo. [Reprinted from the "Archivio e atti della Società di chirurgia italiana."]

Rules for the General Management of Infants, recommended by the Obstetrical Society of London. London: Longmans Green, Reader, & Dyer, 1885. Pp. 8. Price, 1*d.*

Clinical Lectures. On Scrofulous Neck. By T. Clifford Allbutt, M. A., M. D., F. R. S., F. R. C. P., Consulting Physician to the Leeds General Infirmary. And on the Surgery of Scrofulous Glands. By T. Pridgin Teale, M. A., M. B., F. R. C. S., Consulting Surgeon to the Leeds General Infirmary. London: J. & A. Churchill, 1885. Pp. 32.

Remarks upon Periuterine Cellulitis and Periuterine Peritonitis. By H. T. Hanks, M. D., New York. [Reprinted from the Albany "Medical Annals."]

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NEW YORK, SATURDAY, JUNE 27, 1885.

GENERAL AND SPECIAL NATIONAL MEDICAL SOCIETIES.

We have before on several occasions spoken in favor of the various national organizations devoted to the study of the special branches of medicine, as compared with sections or other devices for accomplishing special work at the meetings of the American Medical Association. It is to be conceded that the lesser general organizations—the state societies and those of a still narrower sphere from a territorial point of view—furnish eligible opportunities for communication between specialists on the one hand and general practitioners on the other. Such communication is of the greatest benefit to both classes, and consequently to medicine in general. But the society work which really advances the special departments of medical study is not promoted so much in that way as by gatherings that may be called to a certain extent exclusive—not in an offensive sense, but simply as offering particular attractions to the few who are engaged in the branch of medicine concerned, and comparatively little to enlist the attention of others. Whoever contributes to the proceedings of a special society is reasonably certain of encountering criticism from men who found it on their own observations and their own study in regard to the subject in hand, and not on random thoughts which, however bright and however plausible they may be, will in general scarcely bear the after-scrutiny of those who gave them expression, to say nothing of the cold reader. Consequently a great deal is accomplished within a short space of time, and the gain to the profession is enhanced.

We are persuaded that there are but few of our brethren who will be found to dissent materially from this view after they have carefully considered it, and we are fully convinced that any opposition there may be to the special societies is, in so far as it is not purely spiteful, founded upon failure to have duly considered the natural difference between the scope of a general and that of a special society. At the meeting of the American Laryngological Association, held this week in Detroit, the subject was ably handled by the president of the association, Dr. Shurly, whose address will be found in this issue of the "Journal." Dr. Shurly reviews some of the more specific objections that are occasionally urged against the special societies, and we think he argues most convincingly that they are untenable. It seems to us that it is just such questions as these that can most appropriately receive attention in presidential addresses, and we have no doubt that a wholesome impression will remain from the frank and pithy way in which some of them were attended to by Dr. Shurly. There was, of course, no occasion to maintain a *raison d'être* for the body over whose meeting he was presiding, for its achievements are well known to be among those that have deserved the fullest recognition.

THE REMOVAL OF THE OVARIES FOR THE RELIEF OF REFLEX NEUROSES.

Dr. Schmalfuss, Hegar's assistant, contributes a valuable paper to the latest number of the "Archiv für Gynäkologie," with the brief and expressive title "Zur Castration bei Neurosen." The importance of the communication is to be measured by the evident care with which the included statistics were compiled. It is stated that in every case the patient was under observation for a long time before the radical measure was adopted, and that she was seen and examined sufficiently long after the operation for any change in her condition to be accurately noted. The tubes were always removed with the ovaries, and the latter were generally found to be diseased.

The article is an actual addition to our knowledge of the subject, and is of real scientific value when compared with the vague and inaccurate accounts of single cases with which the journals and society reports used to teem. The writer analyzes in all thirty-two cases, which he divides into three groups, the first of which includes those patients who complained chiefly of pains in the loins and abdomen, hyperæsthesia of the vulva and vagina, and the other train of neuralgic symptoms which go to form a well-known picture. In the second class are grouped women with general nervous symptoms, including hysteria, while the last comprises the severest forms of reflex irritation, including hystero-epilepsy. Without entering into the histories of the individual cases, which are detailed with great care, and in a manner that allows of no doubt concerning the accuracy of the observations, we may say that the writer finds that twenty-four of the thirty-two patients were cured, while six were decidedly improved by removal of the ovaries. Among other interesting facts in connection with the subject, he mentions the persistence of the menstrual molimen for months and years after the operation. This was noticed in more than half the cases. Positive data, even in a small series, like the present, are of great importance, in that they furnish a decided refutation of the statement of those who are absolutely opposed to oöphorectomy. If statistics are worth anything, these must certainly prove that there are reflex neuroses of ovarian origin, that they are due to disease of the ovaries, and that they are permanently relieved by removal of the affected organs. But, while we subscribe to much of what the writer has stated, we are inclined to lay most emphasis upon the fact that Professor Hegar never operates for the removal of ovaries until all other treatment has been tried in vain.

MINOR PARAGRAPHS.

A NEW GYNÆCOLOGICAL JOURNAL.

We have received the first number of the "British Gynæcological Journal," which is the official publication of the newly organized British Gynæcological Society concerning the establishment of which we lately spoke in terms of commendation. The new journal is edited by Dr. Fancourt Barnes, and published by Messrs. Smith, Elder, & Co., of London. The first issue is dated April, 1885, and we infer that the publication is to be quarterly, although we do not find it so stated. The contents of the opening number are interesting, including the minutes of the foundation meeting and those of the inaugural regular meeting, together with an exceedingly readable address by the president, Dr. Alfred Meadows, the popular obstetrician of St. Mary's Hospital, a lecture by Dr. J. H. Aveling, a review of the third edition of Dr. Thomas Addis Emmet's "Principles and Practice of Gynæcology," and a number of well-arranged abstracts of current literature. To the many physicians in the United States who regretted the discontinuance of the "Obstetrical Journal of Great Britain and Ireland" this new journal will prove, we do not doubt, a most welcome successor to that publication.

THE RAGE FOR PICTORIAL ILLUSTRATIONS.

Unless we suppose that the authors of a great part of current medical literature have about the opinion of their readers that the late "Boss" Tweed is reputed to have had of the public in general—that, while most of them failed to take in what they read, they were all duly impressed by pictures—it is difficult to imagine why the engraver's art is so constantly called into play to depict commonplace matters. It is hard to see, for instance, on what other theory the journals have of late contained so many pictures of test-tubes showing the gross appearances of the scum that forms at the top. The outlines of the tubes themselves are usually faultlessly portrayed, but what idea is sought to be conveyed by the representations of the conglomerations in the liquid is by no means easy to make out.

THE FIRST BLOW AT MEDICAL PAUPERISM.

In spite of all that has been said of the abuse of medical charity, both here and in Great Britain, little if anything has heretofore been done to overcome it. We are glad to see, however, that the first effective blow seems likely to be struck by our English brethren, in the form of a legislative measure disfranchising the recipients of medical services at the public expense. The project is not over-strained, for those who, for the sake of the public safety, are sent to hospitals for infectious diseases are exempt from the operation of the act.

NEWS ITEMS, ETC.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 23, 1885:

DISEASES.	Week ending June 16.		Week ending June 23.	
	Cases.	Deaths.	Cases.	Deaths.
Typhus	3	0	0	0
Typhoid fever	14	6	7	1
Scarlet fever	63	13	54	7
Cerebro-spinal meningitis	4	4	2	2
Measles	95	9	89	17
Diphtheria	57	27	57	23

Old Shoes and Cholera.—"Apropos of cholera," says the Paris correspondent of the "Lancet"—and we commend the remark to those who think that nothing is to be feared from imported rags—"the report of the Society of Hygiene of Milan draws attention to the influence of old shoes as a means of propagating the disease. When a person treads a soil more or less damp in a locality infected, there is every chance of his conveying the germs in the manner described."

A New Medical Journal in Texas.—Dr. F. E. Daniel, well known for his excellent management of the "Texas Courier-Record of Medicine," announces that he has severed his connection with that journal and will soon issue the first number of "Daniel's Texas Medical Journal," to be published at Austin. He makes an earnest appeal to the profession in Texas to sustain his undertaking, and we trust that a fitting response will be made.

The Alumni Prize of the College of Physicians and Surgeons.—We would call our readers' attention to the committee's announcement, which will be found in our advertising columns. The prize offered by the Alumni Association of the College of Physicians and Surgeons is substantial in amount and one of the most creditable to the winner of all that are offered in this country.

Precautions against Cholera in Russia.—The "Progrès médical" learns from a Russian newspaper that an official recommendation has been sent to the home Government from the Caucasus to the effect that all the railways be furnished with flying pharmacies (*pharmacies volantes*), together with a corps of medical officers and attendants.

An Epizootic is reported from Knoxville, near Pittsburgh, Pa., affecting various sorts of domestic animals. The dispatches to the newspapers express the suspicion that the disease is glanders.

The Death of Dr. Edmund A. Arnold is announced as having taken place on Friday of last week, in the twenty-ninth year of his age. The deceased, who was a son of Dr. E. S. F. Arnold, was a graduate of Bellevue Hospital Medical College, of the class of 1880, and a member of the Medical Society of the County of New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 14, 1885, to June 20, 1885:*

Porter, J. Y., Captain and Assistant Surgeon. Having been found incapacitated for active service by an army retiring-board, ordered to proceed to his home and report by letter to the Adjutant-General of the army. S. O. 136, A. G. O., June 15, 1885.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy during the week ending June 20, 1885.*

Arthur, George, Passed Assistant Surgeon. Granted leave of absence for one year, with permission to leave the United States.

Deane, C. W., Passed Assistant Surgeon. Granted leave of absence for three months.

Cleborne, C. J., Medical Inspector. As member of Medical and Naval Examining Boards, Philadelphia, Pa. June 22, 1885.

Lippincott, George C., Passed Assistant Surgeon. Detached from temporary duty, Naval Academy, and waiting orders.

Mackie, Benjamin S., Surgeon. As member of Medical and Naval Examining Boards, Philadelphia, Pa. June 22, 1885.

Shafer, Joseph. Commissioned an Assistant Surgeon, active list. June 12, 1885.

Society Meetings for the Coming Week:

Wednesday, *July 1st:* Medical Society of the County of Richmond, N. Y. (annual—Stapleton).

Thursday, *July 2d:* Society of Physicians of the Village of Canandaigua, N. Y.; Obstetrical Society of Philadelphia Washington County, Vt., Medical Society.

Proceedings of Societies.

AMERICAN NEUROLOGICAL ASSOCIATION.

Eleventh Annual Meeting, held in New York, Wednesday, Thursday, and Friday, June 17, 18, and 19, 1885.

Wednesday's Proceedings.

The Temperature Center.—Dr. Isaac Ott, the retiring president, called the meeting to order. Neurological science, he said, had been advancing during the past year. Referring to the special line in which he had been working, he thought it could now be stated positively that the temperature of the body was as much under the control of the nervous system as the heart was. His own investigations, and those of some others, pointed to the anterior part of the optic thalami as the locality of the temperature center. He then introduced the vice-president, Dr. Leonard Weber, of New York, who took the chair.

Officers for the Ensuing Year were then elected as follows: President, Dr. C. K. Mills, of Philadelphia; vice-president, Dr. V. P. Gibney, of New York; secretary and treasurer, Dr. R. W. Amidon, of New York; members of the council, Dr. George W. Jacoby and Dr. E. C. Seguin, of New York.

A Case of Chronic Myelitis; Recovery.—Dr. A. D. Rockwell, of New York, read a paper with this title. [See page 690.]

Dr. E. C. Seguin thought the case would come under the category of cases of somewhat modified polio-myelitis with some extension into the gray matter. It certainly could not be regarded as an example of cure of myelitis transversa. He then referred to some cases of polio-myelitis which he had cured.

Dr. L. C. Gray, of Brooklyn, thought the term chronic myelitis would remain an indefinite one so long as we knew so little about the functionally distinct columns of the cord. Disease of certain of these columns could be recognized from given symptoms, but there were other columns which had been shown to be distinct in function, although the exact symptoms resulting from their diseases had not yet been recognized. The term chronic as applied to myelitis might be understood differently by different authors, and he related a case or two in which symptoms existed over a year before a cure was finally effected. He had also noticed a quiescence of symptoms for two or three months in some cases, all means of treatment failing, when suddenly improvement began on the use of electricity.

Methods of Staining in Microscopic Study.—Dr. Starr read the paper in which he described the following methods of staining nervous tissue for microscopical study, and pointed out the advantages of the several methods: with hæmatoxylin, with acid fuchsin, with Seguin's modification of the aniline-blue, with double staining with methyl-blue and acid fuchsin, and with saffranin.

On the Use of Osmic Acid in Peripheral Neuralgias.—Dr. Jacoby read the first paper of the evening session, bearing this title. [It will be published in full hereafter.]

Dr. Sachs, by invitation, said that he had witnessed the treatment by osmic acid at the hands of Eulenburg, and that the results had been only partially successful, perhaps one third of the patients not being benefited at all. The acid which he had used in Berlin caused the patient no pain, but that obtained in this city had caused quite severe pain. He thought this method of treatment might be tried where other methods had proved unsuccessful.

Dr. Seguin had not employed osmic acid, but had treated cases of neuralgia on the same general principle, namely, by the injection of some substance, such as nitrate of silver, over the course of the nerve. In some instances benefit had resulted, and he mentioned one notable case of cure. The plan was not new, having been employed many years ago by the French. He thought the good obtained was by counter-irritation, sometimes by the formation of an abscess.

Thursday's Proceedings.

Two Cases of Spina Bifida cured; one followed by Hydrocephalus.—Dr. Gibney reported the cases, a brief account of which had been given before the New York Pathological Society a few months before. In the patient, who died of an intercurrent disease after a cure of the spina bifida had been effected, the treatment was by injections of the iodo-glycerin fluid. The tumor had fallen to the level of the surrounding surface, and was apparently completely cured.

The Use of Strychnine in Nervous Diseases.—Dr. Gray read a paper with this title. His attention had been called to the subject by a paper by Dr. Jewell, in which large doses of strychnine had been advocated. Dr. Gray had employed the drug in many cases of myelitis, but in only two really acute cases, having desisted from its use in this class of cases because of the unfavorable symptoms which it caused. Also in one case of transverse myelitis, one-thirtieth-grain doses having been given for about a month without any toxic symptoms, the dose was increased to one twenty-fifth of a grain, and within three or four days, without warning, alarming symptoms of strychnine poisoning developed. In certain chronic cases the drug had produced good effects; but Dr. Gray would begin with one-fiftieth-grain doses, and would cautiously increase the dose, not carrying it above one twentieth of a grain. In five cases of progressive muscular atrophy the effect of the drug had been simply to produce stimulation without apparent real improvement. He had never felt himself warranted in giving the large doses administered by Dr. Jewell (one-eighth- or one-tenth-grain doses); he would not go beyond the first toxic symptoms.

Dr. C. L. Dana had had experience with large doses of strychnine in certain functional forms of nervous disease. One patient, who had become unable to attend to business because of mental and physical depression, began taking one-fifteenth-grain doses, and increased the amount so that he took, in divided doses, as much as a grain a day. Under this treatment he felt better than under any other, and doses not quite so large had been of benefit in other cases. He had not seen any explosive or cumulative effects of the drug.

Dr. Seguin had heard the same ideas regarding the use of strychnine advanced many years ago by Brown-Séquard. Dr. Seguin had given the drug in increasing doses in a number of cases of functional disease of the nervous system with benefit. With reference to Dr. Jewell's practice, he thought it was pretty risky because of the uncertainty of diagnosis in many cases. It had occurred to him that perhaps one reason why Dr. Jewell's patients had borne such large doses without evil results was that they had no central motor apparatus left to respond to its influence. Dr. Seguin would recommend the administration of strychnine hypodermically, thus avoiding the explosive effects which might come from a collection of pills in the alimentary tract.

Paronymy versus Heteronymy as Neuronymic Principles.—The president, Dr. B. G. Wilder, of Ithaca, N. Y., read an address with this title. The desirability of a change of encephalic nomenclature was shown by quotations from various authors. The object was to insure greater accuracy and brevity, and to facilitate the means of communicating knowledge between neurologists of all nations. It was proposed to discard vernacular names, to make a selection of shorter technical classical ones, and to abbreviate some by the omission of non-essential words and others by the substitution of prefixes for adjectives. The number of terms used in the principal languages to designate different parts of the brain was about nine thousand, whereas somewhat more than five hundred were sufficient. Dr. Wilder disclaimed having any desire to coin new words; on the contrary, he had lain awake more nights in thinking of how to avoid the necessity for this than in any other study. After giving the subject much attention he had concluded that neuronymy would be most advanced by the employment of Latin technical names as far as possible with an English dress or with a vernacular face and aspect. What he proposed and advocated was simply this: that, so far as possible for each part of the central nervous system, there should be found or made a name consisting of a single Latin word; that for each such Latin name there should likewise be found or made an English equivalent, not a translation, but a paronym; and, further, that in obtaining these names, Latin and English, due regard should be had both to existing nomenclature and to the established rules of etymological conversion. He hoped it would be understood that he did not wish, much less undertake, to upset names as they now existed. Most of the words which he had proposed were old terms translated, combined, or abridged. By the use of paronyms instead of heteronyms any neurologist would recognize the name of any portion of the neuron in Latin, Italian, Spanish, French, English, or German.

Friday's Proceedings.

The Relation between the Symptoms and the Lesions of Posterior Spinal Sclerosis.—Dr. E. C. Spitzka, of New York, read a paper with this title, in which he gave an analytical review of cases reported by different authors, and also the observations which he made in two cases in which an autopsy had been obtained. The following is the substance of his concluding remarks: While it must be admitted that the primary lesion of tabes was competent, for each affected level of the root zones and great horns, to produce all the characteristic symptoms of the disease referable to that level, yet in the extent and distribution of the consecutive lesions we had valuable guides to the extent, severity, and duration of the primary disturbance, and might attribute to the following special disturbances the ensuing degeneration of the tracts whose functions were abolished or diminished: 1. That of the column of Goll to the disturbance of muscular sense in the lower extremities. 2. That of the comma-shaped internal bands of the column of Burdach to the corresponding disturbances in the upper extremities. 3. That of the triangular area bordering on the periphery of the cord and its posterior root-entry to the rarer analgesic development. 4. That of the column of Clarke and the direct cerebellar tract to the disturbed space-sense. It was probable that some of these views would in time have to be modified.

Dr. Seguin called attention to the insusceptibility of tabetic patients to the sensory effects of aconitine. He had observed that in both the first and second stages of tabes it required very large doses of aconitine to produce the peripheral subjective sensations so characteristic of the action of that drug upon the spinal axis in healthy subjects. Perhaps out of fifteen patients with tabes only one manifested the tingling sensations in the extremities usually seen, and in that patient it required enormous doses. The amount taken by two or three patients was almost sufficient to produce collapse, but they had not the special symptoms referred to. It had occurred to him that perhaps this fact was to be explained by an early change in the part of the gray matter in the cord referred to by the author. He thought it was opposed to the view that aconitine acted on the peripheral extremity of the nerves.

On a Seldom Described Artery (Arteria Termatica), with Suggestions as to the Names of the Principal Encephalic Arteries.—The President demonstrated the arteria termatica, which he had always found given off from the anterior communicating, or, in case of the absence (which was frequent) of the anterior communicating, from the junction of the two anterior cerebral arteries. The interesting feature of the artery was that it was azygous. He proposed to name the principal encephalic arteries in accordance with the principles of neuronymy laid down in his address. Instead of anterior communicating he would say præcommunicant, and, instead of posterior communicating, postcommunicant, etc.

Dr. Starr had observed absence of the præcommunicant artery in two brains out of fifteen dissected during the past winter.

On Two Little-known Cerebral Fissues, with Suggestions as to Fissural and Gyral Names. — The President showed in the human brain the fissura inflecta, described only by Italian writers; also a fissure near the olfactory bulb, most distinct in animals, called by Owen the basi-rhinal fissure. Dr. Wilder had arrived at the conclusion that this fissure was of important morphological significance, and had found on further reading that his views in this respect were only confirmatory of Owen's and Broca's. For fissural and gyral names he would use single words with the prefixes præ, post, sub, etc.

Two Cases of Friedreich's Disease.—The paper had been written by Dr. Wharton Senkler, of Philadelphia, and in his absence was read by Dr. Massey. The two cases described were almost typical cases of Friedreich's disease with the exception that they were not hereditary. There was no history of syphilis. No autopsy was made.

Dr. Seguin had recently published five cases of Friedreich's disease, and he also briefly referred to some cases by Dr. Smith, of Boston.

Dr. R. W. Amidon, of New York, had under observation two cases of what he believed to be Friedreich's disease, the symptoms in one of which he briefly described. The paper was also discussed by Dr. Starr and Dr. Jacoby.

A Galvanometer.—Dr. Jacoby presented a galvanometer, the invention of Dr. Rudisch. The relative value of this and other like instruments was discussed at considerable length.

A Brain Monstrosity was presented by Dr. Spitzka at the evening session. The specimen had been removed from the body of a child, aged two years and a half, with a number of deformities of the extremities. The chief feature in the malformation of the brain was cerebellar. Dr. Spitzka also presented specimens illustrating Gudden's atrophy method, which had a bearing on the anatomy and physiology of the tracts comprised under the name lemniscus or fillet, and also on the anatomy of the trineural fasciculus. The specimens were from a kitten.

The President then exhibited specimens illustrating (*a*) the form and extent of the adult aula; (*b*) the non-extension of the rima to the tip of the medicornu; (*c*) the enlargement, yet complete circumscription, of the porta in an "alinjected" hydrencephal; (*d*) the fimbrial revert and its relations to the prosoplex; (*e*) the continuity of the diacœlian endyma from the mesal surface of the thalamus over the habena to the diatele; (*f*) the insula in a dog, monkey, chimpanzee, and porpoise. The island of Reil in the porpoise he had found to present a large extent of flat surface, equal to that in man, but, being much more mountainous in man, the entire surface was greater in this portion of the human brain.

A Contribution to the Pathology of the Cerebellum.—Dr. Seguin gave the history of a case in which at the autopsy there had been found a cyst of the superior portion of the vermis, extending an inch into the right cerebellar lobe. The man had had symptoms dating from about 1857, but in 1867 he was seen by the physician under whose care he had since been the greater portion of the time. He had been seen in consultation by Dr. Seguin in 1877. In 1867 he had epileptoid attacks, and began to suffer from severe headache; the eyesight partially failed, there was nystagmus, with cerebellar inco-ordination and exaggerated patellar reflex, but no distinct paralysis or ataxia. A short time before death, stupor, increasing paresis, and bulbar symptoms came on. Dr. Seguin had made a diagnosis of disease, very likely tumor, of the cerebellum, probably of the superior vermis. The patient's statement that he had not had syphilis was credited. At the autopsy, however, besides the tumor mentioned, there was found extensive atheromatous degeneration of the cerebral arteries in patches, and in the basilar artery the change had extended throughout, rendering the vessel quite rigid. The yellowish patches, apparently of new formation, were said to be characteristic of syphilis, but it was believed this patient had not had that disease.

Dr. Amidon gave the history of a case of cerebellar tumor in a child six years of age, the symptoms having led him to a diagnosis of tubercular meningitis, which was discarded because of the continued absence of fever. There were muscular weakness, irritability, and external strabismus, the head being somewhat hydrocephalic in appearance. Finally, there were complete failure of speech, incontinence of urine, and death in a comatose condition. The autopsy showed a sarcoma involving the superior vermis and the lateral lobes. An interesting fact was that the child's mother had had a sarcoma of the neck excised.

Notes on Hydrochlorate of Cocaine.—Dr. Bauduy, of St. Louis, read a paper with this title, and said he considered this drug almost a specific for melancholia; also for the morphine habit, although the cocaine habit, once formed, was equally baneful. It was also useful in certain sexual neuroses, hypochondriacal insanity, etc. It caused wakefulness, relieved hunger, was anti-emetic, etc.

A Committee on Electrical Dosage was appointed, consisting of Dr. Jacoby, Dr. Birdsall, and Dr. Amidon.

The society then adjourned, to meet at the call of the council about the same time next year.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting of June 15, 1885.

The President, Dr. Charles A. Leale, in the Chair.

A Few Practical Remarks on Rupture of the Perinæum—Dr. Frank H. Hamilton, the author of the paper, did not believe that any resistance which could be considered justifiable applied to the perinæum could appreciably delay the advance of the child's head and tend to prevent rupture. If the object in making pressure upon the perinæum was to direct the child's head forward, toward the pubes, the advice to support the perinæum could be understood, but it was only in rare cases, as in the absence of proper curvature of the coccyx, that this indication was not met by nature. He also considered it an objection to the use of the forceps, even if it was removed before the head passed the perinæum, that it was liable to increase the danger to the perinæum. It was sometimes employed to hasten delivery under ordinary circumstances, and must then give the head less time to become molded before reaching the perinæum. Grave perineal lesions were much more common now than formerly, a fact which was coincident with the increased use of the forceps and anæsthetics. He thought the future would probably show that our progress in the use of the forceps and anæsthetics had been too rapid. He mentioned anæsthetics because they were so commonly associated with artificial labor. He did not think that laceration of the perinæum and prolapsus of the uterus always stood in the relation of cause and effect. The uterus might be made to descend from many causes, whether the perinæum was sound or not, and if it did descend and was brought into actual contact with the perinæum, the presence of this body would be an important obstacle to its further protrusion. Rupture of the perinæum could affect the uterus only as it became associated with atrophy of the muscular fibers of the vagina, and relaxation of its walls, in which case the vagina would become an active agent in dragging the uterus down. These consequences to the vagina and uterus did not always occur after destruction of the perinæum, but were likely to occur in fat subjects.

Regarding the primary operation for laceration of the perinæum, Dr. Hamilton could not agree with those authors who advocated its use, and he gave several objections to its adoption. One of the principal objections was that an apparently serious rent might disappear almost completely after the parts regained their tonicity, and be perfectly repaired by granulation. Again, it was very difficult to get union in these cases, although sutures were applied early. Hewitt had said the operation should be done within an hour after delivery, if it was expected to obtain primary union; Dr. Hamilton also believed that primary union would not be likely to take place if the operation was done later than an hour after the birth of the child, but he thought further that even the immediate operation would probably prove fruitless. It was proposed to perform a serious operation, under every surgical disadvantage, when the patient was prostrated and trembling from the results of a severe labor and was in the worst possible condition, both mentally and physically, to endure the shock of the operation. Nothing but the most urgent, imperative necessity would justify the operation under these circumstances, and such a necessity had not been shown to exist.

As to the secondary operation, when the sphincter ani was not involved, the preparatory treatment consisted in thorough evacuation of the bowels forty-eight hours before the operation by a saline cathartic, and on the morning of the operation by a copious enema of warm water, followed by the introduction of a suppository of morphine. During the operation the surfaces should be thoroughly and extensively denuded, say one inch in an antero-posterior direction, and nearly as far inward on the vaginal wall. All bleeding having ceased, three well-waxed sutures of the largest-sized harness-maker's silk should be introduced, at a sufficient depth to include the entire denuded surfaces. The surfaces should be brought together with moderate firmness. In most cases it was well to insert two or three superficial sutures. The knees should be tied together loosely, with a small pillow between them. The patient could then lie either on the side or on the back. The greatest care should be taken in the after-treatment, keeping the parts clean, drawing the urine, etc. The deep sutures should be left in six or seven days, perhaps longer. The fine ones might be removed earlier. The bowels should be moved after the tenth day. In case the recto-vaginal wall was involved, the operation would be more severe, and in this case the deep sutures should remain as long as they served a useful purpose, and the evacuation of the bowels should be further delayed. He made no reference to the wire suture, finding it hard to introduce and remove; he preferred the so-called quill suture, using a bougie instead of a quill. If a considerable portion of the recto-vaginal septum was involved he would recommend the use of the wire suture, at least next the rectum.

In some supplementary remarks Dr. Hamilton referred to the use of chloroform in labor, advocated by Dr. Barker. He thought Dr. Barker was in error when he expressed the opinion that chloroform, by causing relaxation of the vaginal structures, lessened the liability to rupture of the perinæum. Nature had provided for this extreme relaxation, and chloroform could not further affect it. The other argument advanced by Dr. Barker concerning the effect of chloroform upon the action of the uterus Dr. Hamilton thought had little bearing upon the question, for the head would have afterward to pass the perinæum, and rupture would be as likely to take place as if the anæsthetic had not been used. He quoted Meigs, who said he had never had in his practice a case of durable rent of the perinæum, as showing that surgical interference and anæsthetics had tended to increase rupture of the perinæum.

Dr. I. E. Taylor discussed this paper, after other papers had been read, and said that, although it had been stated by the author that rupture of the perinæum was now very common, it had very seldom occurred in his practice. His views on some points were opposed to those expressed by the author of the paper, and he gave his reasons for using the forceps in certain cases before the head had reached the perinæum, and as to the manner in which pressure with the fingers over the perinæum, while it was not intended to support it, tended to prevent rupture of that body. The principle aimed at was to allow the perinæum to adapt itself to the circumstances and to become as far distended as possible before the passage of the head and shoulders. He thought the shoulders, when large, were liable to produce rupture after the head had passed without doing injury. As to the use of anæsthetics, it would sometimes be found that ether would prove effective when chloroform had failed, and the employment of the one or of the other of these agents would depend upon the circumstances of the case. He mentioned some objections to the primary operation for rupture of the perinæum, and also to its performance even for some weeks after the occurrence of the accident.

Persistent Flatness over the Liver as a Proof that Acute Diffuse Peritonitis is not associated with Intestinal or Gastric Perforation.—Dr. Austin Flint, Sr., read the paper, in which he referred to a paper on this subject which he had read before the Medical Society of the State of New York in 1882, and which had been quoted by certain authors since that date. He again took this occasion to refer to a case, a brief report of which he had already published, in support of the view advanced at that time when his only evidence consisted of experiments upon the cadaver. In the case referred to he had expressed the opinion that perforation had not taken place, because of the persistence of dullness over the liver. Some of the physicians who saw the patient had entertained a different opinion. About the seventh day an aggravation of the symptoms took place, and the patient died. There was at death resonance over the liver, flatness having been noticed in the morning. The autopsy showed perforation of the vermiform appendix, surrounded by a wall of lymph and exudative material, inclosing pus. Dr. Flint regarded the case as proof of his view, as it appeared evident that up to the day of death there had been no escape of the intestinal gases into the peritoneal cavity; but as soon as this escape took place, and rapidly led to death, the peritoneal cavity became distended with gas and changed the percussion note over the liver from one of dullness to one of resonance. The case was also interesting as showing the possible advantages of an exploratory incision.

Intussusception of the Intestines, with the Report of a Case.—Dr. Charles S. Wood, the author of the paper, reported the case of a boy, eight years of age, in whom there were undoubted symptoms of intussusception of the intestine, consisting of pain over the abdomen, increased pulse and temperature, projectile vomiting of matter having the odor of fæces, etc., these symptoms lasting for a number of days. The question of laparotomy was raised, but, inasmuch as he had known patients to recover without, and as the operation had nearly always proved fatal in children, he decided to continue treatment by injections of water at intervals of about two hours, fomentations over the abdomen, etc. On the fourth day the injections brought away a little fæcal matter, showing that the invagination was beginning to become reduced, and from the seventh day the patient slowly convalesced. He had become greatly emaciated, there were bed-sores, and the greatest care was necessary to conduct him to complete recovery. It was thought a portion of the sloughed bowel was found in the fæces. Dr. Wood then gave the symptoms and treatment of intussusception, and quoted cases reported by other authors in which injections had led to recovery. Statistics also, so far as they went, showed that laparotomy in children was very fatal, and for this reason, and because a number recovered by the plan of treatment adopted in this case, he thought laparotomy should not be resorted to except in extreme cases. The persistent use of injections, with other accessory treatment, offered the best chance of saving life in intussusception in the young subject.

A Method of Direct Local Treatment for Diseases in the Region of the Ileo-cæcal Valve, and also for the Safe Removal of Impactions of the Intestines.—The President made some remarks on this subject. [They will be published in full hereafter.]

Malignant Endocarditis.—Dr. H. M. Biggs presented a heart illustrating this condition, having vegetations on all the valves. He had not found the record of any other case in which vegetations existed on all the valves. This patient died during an attack of pneumonia, and the autopsy showed pulmonary infarctions, besides consolidation in the opposite lobe.

Dr. Biggs also presented the bladder and kidneys removed from a patient who had given symptoms of vesical calculus, having at intervals for years passed blood with the urine, and had dysuria. On a number of occasions the calculus had been sought for, once the finger being introduced into the bladder, but it had not been found. Finally its presence was detected by the sound, but the patient died before the time set for an operation. The walls of the bladder were hypertrophied, and it contained a calculus of the size of a hickory-nut. The ureters were dilated, and there was pyelo-nephritis. .

NEW YORK STATE MEDICAL ASSOCIATION, THIRD DISTRICT BRANCH.

First Annual Meeting, held in Syracuse, Tuesday, June 9, 1885.

The President, Dr. John G. Orton, of Binghamton, in the Chair.

About seventy members were registered during the day. .

Dr. H. D. Didama, chairman of the Committee of Arrangements, said that the committee had no special report to make, only that everything had been done to make the meeting in all its points an unqualified success. He welcomed the members to the city, and said that he trusted the branch would prove itself to be not even second to the branch in New York city.

The President's Address.—The President had chosen as a subject for his remarks the "Reciprocal Relations of the Medical Profession to the State, to Corporations, and to Individuals." The medical profession, he said, was brought into reciprocal relations with the State by its connection with health boards, and in its labors for the preservation of wholesome sanitary laws. The State had very properly imposed certain qualifications upon physicians before allowing them to practice or act in company with the health boards. All physicians devoted to their profession should take earnestly in hand, in self-defense, measures for suppressing impostors who traded on public credulity, and ask that the press, the clergy, and men of position and influence consider well the moral responsibility they assumed in commending to the confidence of the public the plausible quacks and their worthless nostrums. He referred to the duties of the profession in examining recruits for the army or navy, or attending the soldiers in the spread of camp fevers, cholera, scurvy, and other plagues; and in examining applicants for pensions and for life insurance companies. Here physicians served the Government and the corporations. The duties of their relations should be performed honestly and to the best of their ability. Their honor, in cases of expert testimony in the courts, should also be faithfully guarded. In the reciprocal relations of the physician to the individual were found relations which tended to the highest cultivation of the noblest instincts. The constant care of the sick, the suffering, and the dying could not but imbue the conscientious physician with an appreciation of the greatness of his mission and of the responsibilities he assumed. The relations between physician and patient were necessarily and so often of an intimate and confiding character that the small aggregate of cases of misplaced confidence was a testimonial of the integrity of the profession. A physician who hoped for success must have unlimited stores of self-denial and self-devotion, not only to carry him through, but to hold him above all and every temptation, that he might be a perfectly reliable repository of personal and family honor. It was with much pride and pleasure that he congratulated each one present, and all who were in affiliation with this organization, on the auspicious character of the first annual meeting. The great seal of success and permanency was stamped upon it.

The Executive Committee's Report was next presented, and was adopted.

The Committee on By-Laws reported a change in the laws regarding the order of business for the day, and recommended that a common set of by-laws be adopted by the State association for the use of all the districts throughout the State. The committee was given further time to make arrangements.

A Committee on Registration was appointed, consisting of Dr. Charles W. Brown and Dr. John H. Priee of Elmira.

The Committee on Nomination by counties was: Broome County, Dr. Putnam; Chemung County, Dr. Wales; Chenango County, Dr. Avery; Cortlandt County, Dr. Jewett; Cayuga County, Dr. Laird; Madison County, Dr. Ure; Onondaga County, Dr. Head; Otsego County, Dr. Leaming; Schuyler County, Dr. Smelzer; Seneca County, Dr. Allison; Tompkins County, Dr. Farrington.

The Varying Degree of Severity of Symptoms of Strangulated Inguinal Hernia.—A paper with this title was read by Dr. Frederick Hyde, of Homer, who gave a review of the subject, the treatment to be employed in the various cases, and statistics showing the fatality of the accident in its varying forms of severity. He cited instances, one the case of a man in Cortlandt, who was toward the last attended by him. A small swelling in the right groin had been noticed, but it had not produced any bad effects. In carrying an armful of wood up a long flight of stairs one day, the patient felt a sharp pain in the swelling at the groin, that was afterward found to be the commencement of strangulation. He was visited by several physicians, and by their advice an operation was performed. The operation did not have the desired effect, and the man died. An autopsy was made, and the result showed that, if the operation had been done at the beginning of the strangulation, the patient's life would probably have been saved. The doctor gave eleven valuable suggestions at the close of his remarks.

The subject was discussed by Dr. J. W. S. Gouley, of New York, Dr. Kneeland, Dr. Jewett, and Dr. Ferguson.

On motion of Dr. Didama, Dr. J. W. S. Gouley, of New York, and Dr. E. D. Ferguson, of Troy, were invited to seats with the members.

The Ordinary Treatment of Nasal Catarrh. — Dr. Nathan Jacobson, in a paper on this subject, said that the disease was an American institution, and was fast becoming a mark of true American citizenship. He cited the present mode of treating it, which had not met with satisfactory results, so that patients, after trying many practitioners without benefit, went to the specialists, and afterward resorted to the snuff or catarrh cure most thoroughly advertised, but still found no help. Intelligent local treatment was necessary to treat nasal catarrh successfully. The physician must make a thorough examination in each case, and then treat it systematically. Nasal catarrh, if left to itself, it was believed, would cause consumption, but of this there was grave doubt. There was little doubt, however, that catarrh, on becoming chronic, would aid in the development of consumption, should the patient have a tendency in that direction.

A Puzzling Case of Abdominal Tumor was the subject of a paper read by Dr. W. W. Munson, of Otisco, which was discussed by Dr. Gouley, of New York.

The Nominating Committee reported as follows: *For Secretary*—Dr. Charles W. Brown, of Elmira. *Executive Committee*—Dr. C. B. Richards, Dr. W. R. Ladd, Dr. G. W. Avery, Dr. F. W. Ross, Dr. H. O. Jewett, Dr. O. M. Allabin, Dr. Gilbert Birdsall, Dr. A. D. Head, Dr. J. K. Leaming, Dr. R. T. Smelzer, Dr. Elias Lester, Dr. R. W. Eastman, Dr. J. M. Farrington.

Tubercular Consumption never inherited, always produced.—Dr. H. D. Didama then read a paper on this subject, which was discussed by many members.

The following papers were then read, and several of them discussed: "Operation for Deviated Septum Nasi," by Dr. F. W. Ross, of Elmira; "Recent Advances in Dermatological Therapeutics," by Dr. F. W. Putnam, of Binghamton; "Pistol-Shot Wounds of the Kidney and Lung," by Dr. George P. Merritt, of Cherry Valley; "Perityphlitis," by Dr. Theron A. Wales, of Elmira; "Typhoid Fever as we see it in Central New York," by Dr. H. L. Elsner, of Syracuse; "Swing Suspension in Cases of Deformed Spine," by Dr. C. L. Squire, of Elmira; "Diabetes," by Dr. G. C. Smith, of Delhi; and "Puerperal Insanity," by Dr. C. F. MacDonald, of Auburn.

The State Association's Library.—Dr. Gouley stated that letters had been sent to the fellows of the State association requesting books, pamphlets, and journals for the new library, and that from fifteen fellows over a thousand volumes had been received. He wished that all those who could contribute would do so.

Dr. C. W. Brown, Dr. J. H. Chittenden, and Dr. T. A. Wales were appointed a Committee of Publication and Printing.

Dr. F. W. Ross, of Elmira, moved a vote of thanks to the Committee of Arrangements for the handsome manner in which they had entertained the association; and it was carried unanimously. The meeting then adjourned.

ILLINOIS STATE MEDICAL SOCIETY.

(Concluded from page 701.)

The Treatment of Epilepsy.—Dr. D. R. Brower, of Chicago, read the report of a special committee on this subject. He first called attention to the absence of any constant lesions. The phenomena, he thought, were due to a want of resistance in the nerve-cells, in consequence of which they discharged their force without adequate peripheral irritation. The cells so disturbed might be in the cerebral cortex or in the medulla, and in the medulla the trouble might be due to general excitability or to a disturbance of nutrition beginning in the vaso-motor center, making at least three kinds of epilepsy. He then dwelt upon the small percentage of cures that resulted from medicinal treatment, and the number that had followed judicious surgery.

Many cases had their origin in injuries to the head, the scalp, or the skull, and recovery had followed the removal of cicatrices and the use of the trephine. Trephining had been successful in a large proportion of cases; it was justifiable in all cases of supposed injury to the skull, and the amount of bone removed should be large. Besides operations for the relief of phimosis and for the removal of diseased ovaries, tying the vertebral artery was advised.

The medicinal treatment was then considered. Besides prevention of the attacks, the general treatment should be tonic. The importance of generous diet and gymnastic exercises was insisted upon.

The tonic remedies advised were brucine, strychnine, arsenic, and zinc, preference being given to brucine. The drug must be pushed to its full physiological action, and this action must be maintained for at least a month, then stopped for a short time and begun again.

Dr. W. A. Byrd, of Quincy, thought that if surgical treatment failed to cure epilepsy when it was necessary to remove a piece of the skull, it was because not enough bone was taken out. In trephining—where a large portion of the bone was removed—no bad symptoms followed as a rule.

Officers for the Ensuing Year.—The Committee on Nominations then reported the following nominations: For president, Dr. W. A. Byrd, of Quincy; first vice-president, Dr. W. T. Kirk, of Atlanta; second vice-president, Dr. A. Wetmore, of Waterloo; permanent secretary, Dr. S. J. Jones, of Chicago; treasurer, Dr. Walter Hay, of Chicago. Judicial Committee, Dr. E. F. Ingals, of Chicago; Dr. F. B. Haller, of Vandalia; Dr. W. Hill, of Bloomington. Assistant secretary, Dr. Harlan Luce, of Bloomington. Committee of Arrangements, Dr. J. L. White, Dr. T. H. Worrall, Dr. Lee Smith, Dr. Burns, Dr. W. Hill, of Bloomington. Committee on Practical Medicine, Dr. J. J. M. Angear, of Chicago; Dr. H. R. Guthrie, of Sparta. Committee on Surgery, Dr. C. Truesdale, of Rock Island; Dr. T. M. McIlvaine, of Peoria; Dr. M. Reece, of Abington. Committee on Obstetrics, Dr. W. W. Jaggard, of Chicago; Dr. Hugo Rothsteen, of Waterloo; Dr. E. Ingersoll, of Canton. Committee on Gynæcology, Dr. J. H. Etheridge, of Chicago; Dr. M. J. Mergler, of Chicago; Dr. C. C. Hunt, of Dixon. Committee on Materia Medica and Therapeutics, Dr. E. B. Montgomery, of Quincy; Dr. J. M. G. Carter, of Waukegan; Dr. Catherine Miller, of Lincoln. Committee on Ophthalmology and Otology, Dr. Robert Tilley, of Chicago; Dr. A. C. Corr, of Carlinville; Dr. W. T. Speaker, of Mt. Morris. Committee on Necrology, Dr. E. F. Ingals, of Chicago; Dr. W. Hill, of Bloomington; Dr. G. W. Cox. Committee on Orthopædic Surgery, Dr. C. E. Webster, of Chicago. Committee on Diseases of Children, Dr. F. E. Waxham, of Chicago; Dr. E. B. Slater, of Aurora. Committee on Microscopy in Gynæcology, Dr. O. B. Will, of Peoria. Committee on Dermatology, Dr. H. J. Reynolds and Dr. W. J. Maynard, of Chicago. Committee on Publication, Dr. J. F. Todd, of Chicago. Committee on Physiology, Dr. A. Wetmore, of Waterloo. Committee on Insanity, Dr. Barnes, of Bloomington. Committee on Legislation for the Insane, Dr. Walter Hay, of Chicago; Dr. E. P. Cook, of Mendota; Dr. B. F. Haller, of Vandalia. Committee on Medical and Sanitary Legislation, Dr. B. M. Griffith, of Springfield; Dr. W. A. Haskell, of Alton; Dr. A. B. Strong, of Chicago; Dr. J. L. White, of Bloomington. These nominees were elected. It was decided to hold the next meeting at Bloomington, beginning on the third Tuesday of May, 1886.

Thursday's Proceedings.

Medical Education was the title of the first paper, by Dr. H. R. Guthrie, of Sparta.

Education preliminary to the Study of Medicine.—Dr. G. N. Kreider, of Springfield, read a paper in which he stated that it was conceded that Germany furnished the best preliminary education, while our candidates generally entered college abruptly without sufficient preliminary training. He then gave a *résumé* of what constituted a proper course for a young man to pursue before he entered upon his professional training. Regarding prescription writing, good Latin had practically gone out of use, even by the most classical scholars, yet a student should receive at least a short course in Latin grammar before he took up the study of medicine. Among the six thousand students that entered the American medical colleges annually, twelve per cent. had taken degrees from literary colleges or from a high school; twenty per cent. possibly had attended some literary institution; while nearly four thousand annually entered with but superficial training. He took the high school as a basis of a preliminary course. The moral training needed a radical change, for in the profession of medicine there were more suicides than among any other class of professional men.

Considerable discussion ensued.

The Treatment of Eczema.—Dr. Henry J. Reynolds, of Chicago, read a paper in which he said that an intelligent knowledge of the principles upon which treatment should be based always suggested the form of treatment that would be applicable. The pathological condition not being absolutely identical in any two cases, the treatment must always vary. The disease was always either acute, subacute, or chronic, regardless of its name or location, and he arranged the treatment accordingly. In the acute form the great principle involved was *rest*, which implied not only quietude of the member or part, but rest from all irritating influences, such as scratching, irritation of lice, friction, dirt incident to the calling of the individual, too frequent washing, etc. Soothing and protecting measures, therefore, were indicated in this stage, among which were carron-oil, poultices, etc. In the subacute, as in all other stages and forms, scratching must be strictly prohibited, as it was the most fruitful of all sources of aggravation. He used in this and the chronic condition (either of which might at any time develop acute symptoms and require the treatment changed accordingly) pure, impalpably fine boric acid as a dusting-powder, having first got rid of crusts and scales by soaking with oil and washing with soap and warm water. In the chronic form, however, he used more stimulating measures, such as the use of green soap. To relieve intense itching he had found nothing so effectual as letting it alone. Bandaging and strapping were advisable whenever practicable, and he preferred the cotton roller to the rubber bandage where there was much exudation or maceration of the skin. As certain constitutional conditions predisposed to the disease, and therefore necessarily aggravated or prolonged it when once established, these conditions must be sought after and corrected. He had but little faith in arsenic in this or any other disease; all he knew positively of it was that it might do harm. Chrysarobin, internally, he had tried without any good result.

The Treatment of Croup and Tubage of the Larynx was the subject of the next paper, by Dr. F. E. Waxham, of Chicago, of which the "Journal" gave a brief *résumé* in the May 9th issue, in the proceedings of the Chicago Medical Society.

The Doctor in Court.—A paper with this title was next read by Dr. C. H. Worred, of Lincoln.

The Report of the Committee on Surgery was presented by Dr. W. A. Byrd, of Quincy. The report dealt with the current literature of surgery, and with the subjects of thyroidectomy, trephining for epilepsy and insanity, abdominal surgery, amputation at the hip joint, substitutes for the ligation of arteries, psoas abscess, Pott's disease, and various diseases of bone.

Other papers were read as follows: "Obstruction of the Bowels," by Dr. W. H. Veatch, of Carthage; "Brain Tumors as associated with Optic Neuritis," by Dr. R. Tilley, of Chicago; and "Simple Renal Catarrh," by Dr. J. N. Danforth, of Chicago.

NEW YORK OBSTETRICAL SOCIETY.

Meeting of January 6, 1885.

The President, Dr. William M. Polk, in the Chair.

Serrated Scissors for Repairing the Cervix Uteri.—Dr. T. A. Emmet showed a pair of scissors, presented to him by Dr. Protheroe Smith, of London, one blade of which was serrated, to prevent slipping from the dense tissue of the cervix. In reply to a remark by Dr. Chamberlain, he said the scissors presented to the society by Dr. Dawson had, he believed, only one fang at the end of each blade, whereas these, being serrated the entire length of the blade, would prevent slipping before the point had yet grasped the cicatricial tissue.

A Clamp for Use in Perineorrhaphy.—Dr. E. Noeggerath said that when he was in Freiburg lately he assisted at several operations by Professor Hegar. In the operation for prolapsus of the anterior wall of the vagina it ordinarily took a very long time to denude the surfaces, and occasionally the procedure was attended with much hæmorrhage. But the operation, as it was performed by Professor Hegar, was done in a remarkably short time, as he grasped the redundant tissue between the blades of a straight clamp [exhibited by Dr. Noeggerath], passed the sutures, and then excised the tissue. Dr. Noeggerath also presented a similar instrument, the clamp being curved, which he had devised to accomplish the same purpose, and had shown to the society about fifteen years ago. He thought the curved clamp was preferable, inasmuch as it enabled the operator to remove a greater amount of the surplus tissue. As to the results of this manner of operating, Professor Hegar had shown him some patients upon whom the operation had been performed a number of years ago with perfect success.

Dr. J. E. Janvrin said the clamp used by Hegar was identical with one used a number of years ago by the late Dr. Peaslee, except that Dr. Peaslee's had no handles. Dr. Janvrin had not employed it lately, but formerly he had used it with very good results.

Dr. T. A. Emmet remarked that an instrument involving the same principle was used by the late Dr. Budd as many as twenty-five years ago.

An Antiseptic Curette.—Dr. Noeggerath also presented a curette, the handle being a tube for the conveyance of an antiseptic fluid from a syringe or irrigator during the operation of curetting the uterine cavity. In a great many cases of curetting there was no urgent necessity for antiseptic treatment, but there were other cases in which it could not be dispensed with; those, for instance, in which there was sepsis two or three weeks after miscarriage, parametric or perimetric inflammation, or mucous fibroids in which the curette was employed to remove the hypertrophic condition of the membrane. He had recently employed the curette, with a stream of bichloride-of-mercury solution running through it into the uterine cavity, in a case of extreme sepsis after miscarriage, and the temperature fell almost immediately afterward.

Tubes for Intra-uterine Injections.—Dr. Noeggerath also presented a tube for injecting water into the uterus after confinement, invented by a physician of Cologne, the peculiarity of the instrument being that it caused the stream of water to flatten and enter the uterus less forcibly, thus diminishing the danger of the injection entering the uterine sinuses, and also that of causing severe chills an hour or more after the operation.

Dr. H. T. Hanks also presented a tube for making intra-uterine injections. Being made of silver, it could be bent at any desired angle, and admitted of thorough cleansing, either with boiling water or some antiseptic solution. The bulb contained two apertures of exit for the fluid, and was fastened to the tube by a screw.

Dr. W. M. Chamberlain remarked that the late Dr. Nott's instrument was a very good one for making intra-uterine injections. He thought the antiseptic curette presented by Dr. Noeggerath was open to the objection that, the curve being short and thick, it would be difficult to reach some portions of the uterine surface with the scraping edge.

Dr. Noeggerath said that in presenting the instrument he had not meant to say its shape was perfect, but simply desired to illustrate a principle. With regard to injecting tubes, he had long since abandoned the use of metallic instruments within a few days after confinement, because they were liable to cause a lesion of the newly-formed mucous membrane, and thus give access to septic material. He had employed a rubber tube with a canal on its outer surface which allowed the water to run off freely.

Laparotomy for a Fibroid Tumor of the Uterus.—Dr. B. F. Dawson presented a large fibroid tumor of the uterus with the following history: The patient, forty-seven years of age, regular in menstruation, first noticed enlargement of the abdomen about four years ago. She was seen by several physicians, one of whom told her that the abdominal enlargement was due to an ovarian tumor, and another that it was due to a tumor of the uterus. The swelling having considerably increased, two years ago she consulted Dr. Phelps, of Bellows Falls, who advised her to await events. About a year ago the abdominal enlargement had become so great that Dr. Phelps, assisted by Dr. Campbell, performed tapping, and withdrew fluid which had the appearance of urine. Nine months ago the tapping was repeated, when the fluid was less clear; at three subsequent tappings the fluid had gradually assumed a milky appearance. It was two days since Dr. Dawson first saw the patient and removed the tumor. She was then decidedly cyanotic, so great was the abdominal distension, and he was unable to make a positive diagnosis before withdrawing the fluid. Vaginal examination only revealed mobility of the cervical portion of the uterus. Seven gallons of fluid were withdrawn, which had a thick, whitish appearance, but no odor. The finger was introduced through a small abdominal opening, and a tumor, attached to the uterus and filling the entire lower pelvic cavity, was appreciated. In removing it, the fundus of the uterus also had to be excised, including the ovaries and tubes. The stump was fixed in the abdominal wound by his clamp. He had been informed that evening by telegraph that the patient's temperature was 101·5° F., her respiration 32, and her pulse 120.

Tubal Gestation; Expulsion of the Fœtus and Membranes through the Uterus.—Dr. Janvrin presented a specimen with the following history: A fœtus, apparently of only two months' development, had been expelled four months after conception, the woman having been exposed to pregnancy only on the 17th of August last. About the 15th of September there was a slight "show," lasting for two days. It returned again on the 21st, lasting one day, and again about the 27th, lasting one or two days. Dr. Janvrin saw her on the 3d of October, when there was a very slight flow. On examination, the uterus was found to be a little enlarged, particularly toward the left horn, the os was slightly patulous, and considerable tenderness existed over the left horn and tube. He advised rest, and decided to watch the case closely and await developments. He saw the patient five days later, and daily from that time until the 14th of October. There was a more marked flow; the symptoms of pregnancy were present—nausea, changes in the appearance of the breasts, etc. He saw the patient again on the 28th of October, and became convinced, from a thorough examination, that the fœtus lay partially in the left Fallopian tube, as the tube was enlarged. The enlargement was symmetrical, being as great at the junction with the uterus as at any other point. He felt convinced, however, that the mass projected considerably into the uterine cavity, and he used considerable force in pressing upon the fœtus, trying to expel it into the uterus, but failed. The gravity of the case was explained to the patient and her husband, the opinion that probably electricity would have to be employed was expressed, and a consultation was suggested. Dr. Thomas saw the patient with him at noon of the following day. During the night the patient had had severe pains, like those of labor, confined to the left side of the uterus and to the tube, and at the same time there was a slight flow. The pains ceased early in the morning. Dr. Thomas examined the patient, and, on retiring to another room, expressed himself as decidedly of the opinion that there had not been tubal pregnancy; that the fœtus was probably entirely in the cavity of the womb, situated pretty well up in the left horn. Dr. Janvrin then examined the patient, and found that the mass had nearly disappeared from the tube, but was convinced that it still projected somewhat into the tube, perhaps about one fourth of its length. At all of his previous examinations the right horn of the uterus was much flattened, but within the last twenty-four hours the right side had become bulging, almost as much so as the left horn. He felt so positive in his diagnosis that he was now of the opinion that the fœtus had become sufficiently detached to cause complete miscarriage within a short time. But the mass remained within the uterus, the organ did not enlarge, and the soreness and tenderness diminished to a certain degree but did not completely disappear. After about six weeks the patient began to have some flow, which, when Dr. Janvrin was called, three or four days later, had become quite marked. Believing that the fœtus was dead, he expected expulsion to take place soon, and advised the patient to keep quiet. Notwithstanding absolute rest, the fœtus and membranes were expelled the following day, December 15th, four months after conception, having the appearance of only two months' development. The placenta was atrophied except at one point, as large as the thumb-nail, where it was fresh and had carried sufficient blood to prevent decomposition but not to sustain life.

Dr. T. A. Emmet thought there must be a certain number of cases of tubal pregnancy involving the horn of the uterus in which it would be possible to dilate the horn with an instrument similar to Barnes's uterine dilator, which he once exhibited to the society. He did not know, however, what amount of danger there might be of causing rupture of the walls. In reply to a question, he said that in Dr. McBurney's case the placenta and fœtus could be distinctly recognized within the tube through the rectum.

The President remarked that Dr. Janvrin's case was interesting as going to dispel doubt on the question whether the fœtus could be expelled from the tube into the uterus. When he once reported a case, one gentleman took the ground that it was impossible for the fœtus to pass from the tube down into the uterus, for two reasons, the first being absence of expulsive power in the tube, and the second that before the descent into the uterus could take place the tube would become ruptured.

Dr. Emmet remarked that Parry reported a case in which a child at full term was forced from the tube out through the uterus. He added that the muscular structure of the tubes certainly did become thicker during pregnancy.

An Operation for Fistula in Ano.—Dr. T. A. Emmet referred to the difficulty experienced at times from leakage, after the usual operation of division of the sphincter for fistula in ano, and said that, to avoid this accident, he adopted another procedure about five weeks ago. The internal fistulous opening was about half or three quarters of an inch above the sphincter, the external one about an inch and a half to the left of the anus. He placed the woman in Sims's posture, introduced a rectal speculum, and divided the tissue with the scissors as far up as possible without involving the sphincter. Then Dr. Bache Emmet, who was assisting him, put one finger into the rectum, bringing the rectal surface under the cut, and enabling him to denude the entire tract of the sinus without enlarging the opening into the gut. While the parts were held in this position he inserted the first suture into the integument, close to the sphincter, outside, passing it through the lower edge of the internal opening of the fistula, and he so continued to pass interrupted sutures until the wound was closed. To make the result more certain, he then introduced three interrupted sutures of catgut, approximating the mucous surfaces within the rectum more closely. He thought the operation might have been more easily performed had he inserted sutures in the walls of the fistula outwardly before using the scissors; as it was, he experienced great difficulty in passing the sutures so deep. The result had been perfect. Such an operation would prove of great benefit if we could thereby cure the disease and avoid dividing the sphincter muscle.

Partial Removal of the Uterus.—Dr. Emmet also related a case seen in consultation with Dr. T. H. Burchard. He first saw the patient, a woman sixty-eight years of age, in good general health, about November 20, 1884, when there was a condition of the cervical canal suggestive of malignant disease—probably commencing epithelioma. A surgeon who had seen the patient had expressed the opinion that the disease was limited in extent. Dr. Emmet advised an early operation, which was performed about the 24th of November, Dr. Burchard and his assistant and Dr. Harrison being present. Dr. Emmet's intention was to attempt to remove the diseased tissue by excising a V-shaped piece, but while he was proceeding with the operation, making a moderate degree of traction upon the uterus with the tenaculum, a rent took place, extending from one broad ligament to the other, and making a large opening in Douglas's *cul-de sac.* It was then found that the entire posterior wall of the uterus had become involved in the disease. He now made the incision through and back of the uterus, a little below the insertion of the tube, and forward nearly on a line with the dip of the peritonæum. When the upper part of the cavity of the womb was opened an ounce or more of pent-up pus escaped. Having reached healthy uterine tissue, he afterward removed a portion of the vaginal tissue in Douglas's *cul-de sac*, and then carefully brought together the peritoneal surfaces from one broad ligament to the other with silver sutures. The mucous membrane of the vagina was attached between the existing sutures in the peritonæum, and he also united the mucous membrane of the vagina to that of the uterus, forming a series of radiating folds. At the close of the operation the fundus of the uterus, which was not more than an inch in depth, covered the roof of the vagina like the lid of a pot. To the surprise of all, the temperature rose only half a degree after the operation. It seemed very certain that, had the operation not been performed, peritonitis would have developed within two or three weeks.

Dr. T. H. Burchard (present by invitation) remarked that Dr. Delafield had examined the tissue and pronounced the disease epitheliomatous cancer.

Dr. Noeggerath thought the disadvantages of the ordinary operation for fistula in ano, as pointed out by Dr. Emmet, must have been recognized by every one. An English surgeon, whose name he could not recall, had performed an operation nearly similar to the one described, during which he curetted the fistulous tract and then sewed it up. The results had been the same as in Dr. Emmet's case.

Dr. W. R. Gillette thought the operation referred to by Dr. Noeggerath had first been performed by Dr. Jenks, of Detroit.

Dr. Chamberlain said he performed the operation described by Dr. Noeggerath last May, not knowing that it had been done before. The opening was well out on the buttock, and, after forcible dilatation, it seemed that the sinus would be long in filling up if the ordinary operation were performed. He therefore curetted the fistulous tract, removing all the pyogenic membrane, and united the edges with sutures passed by a highly curved needle. Union took place by first intention, and retention had been complete since the temporary paralysis from dilatation had passed away.

Dr. Emmet had performed the operation attributed to Dr. Jenks three years ago.

Henry J. Garrigues, M. D.,
B. F. Dawson, M. D.,
Frank P. Foster, M. D., *ex officio*,
Committee on Publication.

Miscellany.

Deaths from Anæsthetics.—In a recent issue of the "British Medical Journal," Dr. E. H. Jacob reports the deaths from anæsthesia during the year 1884. Although the list is by no means complete, being limited to England and Scotland, it is sufficiently so to afford an indication of the general character of the cases. Nine deaths were due to chloroform, three to a mixture of chloroform and ether, while six were attributed to the use of ether alone. The writer notes that the deaths from chloroform took place during slight operations, the patients being comparatively healthy, while those from ether occurred in the course of serious operations (three being ovariotomies), so that the element of shock was also present. In the face of these statistics it is extraordinary to remark the tenacity with which the English cling to the more dangerous anæsthetic. In spite of the peril, which they are perfectly ready to acknowledge, chloroform still appears to them to possess decided advantages over ether. There seems to be a certain degree of pure stubbornness in this refusal to be convinced.

Mr. Thornton's Cases of Hysterectomy.—In the same journal Mr. Knowsley Thornton reports eighteen cases of hysterectomy with two deaths. He adopted the extra-peritoneal method of treating the pedicle in every instance, employing full antiseptic precautions. Mr. Thornton regards the spray as a great advantage, because "it enables us to perform an aseptic operation, and protects the patient during the early days, and until the peritonæum is sealed." He rightly lays stress upon the fact that the healing of the peritonæum is the first object to be attained, the sloughing of the extra-peritoneal portion of the stump being then attended with comparatively little danger. Comparing his own results with those of Dr. Keith, Mr. Thornton aptly remarks that, aside from Listerism or non-Listerism, there is "something more in the method of the individual surgeon which brings the success." We are not prepared to enter into a discussion of this interminable question, which seems to be (in London and Edinburgh at least) no nearer a solution than it was five years ago. Mr. Thornton's statistics at least prove that he is a remarkably successful surgeon, and that he certainly loses nothing by his extreme care.

Antiseptic Vaccination.—Dr. Moritz Bauer contributes a lengthy article on this subject to the "Centralblatt für die ges. Therapie." Reviewing the experiments of Sacco, who studied the development of the vesicle when exposed freely to the air and when hermetically sealed beneath a watch-glass, and those of Häger, who added a small quantity of corrosive sublimate to the virus, he affirms that the only real cause of septic infection in a vaccination-sore is previous impurity of the lymph, and that the most thorough antiseptic precautions can not eliminate this factor. After a series of carefully conducted experiments, he finds that the activity of the lymph is determined by the presence of a peculiar form of micro-organism (the vaccine-coccus), which assumes different forms, its earliest manifestation being that of groups of four. On assuming, as they do afterward, the form of chains, their activity seems to be diminished. But an absolutely pure lymph, says the writer, which does not contain other micro-organisms besides those mentioned, is very rare. In order to secure the best possible results, the utmost care must be observed in taking the lymph, the hands and instruments being thoroughly disinfected, while the air is kept as pure as possible. In preserving the lymph, not only must the ordinary precautions be taken to exclude warmth and moisture, but a reliable antiseptic should be added to it. In vaccinating, the lancet and arm should be rendered thoroughly aseptic, a weak solution of corrosive sublimate being recommended. The wound is to be subsequently dressed with carbolized gauze, which should be removed on the fourth day. The writer states that, as a result of these precautions, many of the unpleasant local consequences of vaccination are prevented.

THERAPEUTICAL NOTES.

Pelletierine in the Treatment of Tape-worm.—M. Bérenger-Féraud, of the French navy, has lately made an analytical study of many hundreds of cases of tape-worm observed in the naval hospitals ("Bull. gén. de thérap."). He concludes that the pomegranate is the remedy *par excellence*, and that the alkaloid pelletierine is much to be preferred to any crude preparation of the bark. To be reasonably certain of succeeding with it, however, it is absolutely necessary to observe certain minute details, which may be briefly stated as follows: The day before the attempt is to be made, the patient should be restricted rigorously to a diet of milk, cream, bread, rice, and eggs. Beginning at a certain hour the next morning—say six o'clock—the attempt is made to dislodge the worm. At that hour a dose is given consisting of an infusion of from one third to half an ounce of senna leaves in about three ounces of water, flavored with some aromatic syrup. The patient is to remain in bed. At seven o'clock he takes one half of his dose of pelletierine, the whole dose averaging six or seven grains of the tannate dissolved in syrup. After taking the first dose, the patient is to lie as still as possible, with his eyes closed, in order to reduce the nervous symptoms and the tendency to vomit. At half-past seven the remainder of the pelletierine is to be taken, and quietude is to be observed as before, with the eyes closed. At eight o'clock, provided there is no nausea, a purgative dose of castor-oil (proportional to the patient's susceptibility) is taken. He is still to remain quiet until the nervous disturbances and nausea have subsided. The desire to go to stool should be restrained as long as possible; if it does not occur soon, a purgative enema (of senna or sulphate of sodium) is to be given. In some cases it is well to give an enema of the sulphate of sodium and a decoction of pomegranate root. The vessel on which the patient is to sit should contain warm water, to lessen the liability of rupture of the worm when it has been partly expelled. On no account should the patient rise from the vessel until the whole worm has been voided, provided any part of it has appeared; and no traction should be made upon the worm. Partial or complete failure of the expulsion is best remedied by copious injections containing sulphate of sodium. In case vomiting occurs after one of the doses of pelletierine, more is to be given at once, the amount being in inverse proportion to the length of time since the preceding dose was taken.

Faradization in the Treatment of Intestinal Obstruction.—M. Laborde (*Ibid.*) relates a case in which, the usual expedients having been tried in vain, one electrode of a Gaiffe apparatus was applied to the anus, and the other promenaded over the abdomen, the current being varied in intensity, for fifteen minutes. As this had no effect, the anal electrode was kept in place, and the other held steady on the hypogastrium. After an energetic current had been passed for ten minutes, gurgling was heard, and flatus was passed, followed by about a spoonful of a greenish liquid. The application was thereupon repeated, after which an enormous discharge of gas and fæces took place, and the patient was relieved at once.

Coniine as a Pelvic Anodyne.—In his inaugural address, the first president of the British Gynæcological Society, Dr. Alfred Meadows ("Brit. Gynæc. Jour."), said that, as an example of a pelvic anodyne, with special reference to the ovaries, he knew of none that could compare with conium, or, better still, with the alkaloid coniine, used as a vaginal pessary. In all cases, whether neuralgic or inflammatory, in which the ovaries are the seat of pain, he regards it as quite a specific, no drug that he knows of acting with equal certainty.

Potassium Bromide in the Treatment of Ovarian Menorrhagia.—The same author (*Ibid.*) said that every one would concede that potassium bromide exercised a most powerful influence upon the ovaries. No drug, in his experience, equaled it in controlling ovarian menorrhagia; it not only limited the flow in these particular cases, but seemed to exercise a distinct and controlling influence upon ovulation itself, decreasing its frequency.

Medicated Metal Bougies in the Treatment of Gleet.—Dr. T. J. Hudson ("Lancet") never uses injections, but employs silver sounds, anointed with various medicinal substances, which are to be retained in the urethra for periods varying from ten minutes to (in the most rebellious cases) four or five hours. The instrument is passed into the bladder, after urination. Carbolized oil (1 to 20), a compound of iodoform and resin ointment (2 drachms to the ounce), and iodide-of-sulphur ointment diluted with benzoinated lard are the preparations mentioned, Stress is laid on the length of time that the instrument is kept in position.

Euodia Longifolia as a Preventive of Abortion.—The "Lancet" quotes the "Pharmaceutical Journal" as stating that the leaves of the rutaceous plant *Euodia longifolia*, a native of Fiji, have been employed successfully by the native women as a preventive of abortion. An infusion is used for several months prior to the time for parturition. It is made by rubbing the leaves into a pulp with cocoa-nut milk, adding more liquid, and then straining, the resulting greenish mixture forming the medicine.

Urari in the Treatment of Tetanus.—At a recent meeting of the Surgical Section of the Academy of Medicine in Ireland ("Brit. Med. Jour."), Mr. McArdle read the notes of a case of acute traumatic tetanus in which doses of two thirds of a grain of urari, every fifth hour, resulted in a cure, the more remarkable effects being relaxation of the contracted muscles in from six to ten minutes, very rapid and tumultuous action of the heart, cyanosis, labored breathing, and dilatation of the pupils. Once the patient was sufficiently under the influence of the drug, the action of the bowels was regular. Mr. McArdle suggested its combination with pilocarpine, in the hope that the cardiac and respiratory trouble might be prevented. He also stated that it must be used in large doses and that its action was cumulative.

Simulo in the Treatment of Epilepsy.—Dr. Larrea ("Boletin Médico"; "Brit. Med. Jour.") recommends the treatment of epilepsy with simulo, the fruit of *Capparis coriacea*, a plant indigenous to Peru, the medicinal properties of which have long been known to the Indians of that country. Melochara, a conserve made from an allied plant, is also used for epilepsy. About an ounce and a half of powdered simulo is mixed with a pint of sweet sacramental wine, and a wineglassful of the mixture is to be taken night and morning. When a lad, the author himself was cured with this remedy, and he states that he has used it extensively in epilepsy, hysteria, and other nervous diseases.

Antipyrine as a Preventive of the Pyrexia of Phthisis.—At a recent meeting of the Paris *Académie de médecine* ("Gaz. hebdom. de méd. et de chir.") M. Daremberg called attention to the use of antipyrine in phthisis. The drug should be used, he said, less to reduce the fever than to prevent it, and it should be given in large doses.

The Administration of Sulphide of Potassium.—To avoid the offensive odor of this drug, M. Pierre Vigier (*Ibid.*) proposes the following formula:

Sulphide of potassium, } each............... 1 part;
Tincture of benzoin, }
Distilled water........................... 100 parts.

The mixture should be strained through linen, to avoid leaving bits of benzoin resin in it. Its odor is said to bear a close resemblance to that of the acacia flower. A different perfume, equally agreeable, is produced by replacing half the distilled water with rose-water.

The Treatment of Furuncles.—At a recent meeting of the *Société médicale des hôpitaux*, M. Gingeot (*Ibid.*) maintained that the formation of boils was not dependent on any diathesis, but was of parasitic origin. He uses an abortive treatment consisting of local applications of tincture of camphor or tincture of iodine, of which the latter is to be preferred. Several applications are to be made in rapid succession until the skin assumes a deep brown or blackish color. The author uses the sulphides, however, to overcome the disposition to successive crops of boils.

Antipyrine.—Much has been published of late concerning this drug, but we do not remember to have seen anywhere so much practical information given within a small compass as in the following, which we translate from a recent number of the "Progrès medical": Antipyrine is an alkaloid derived from quinoleine. Its hydrochlorate is a white powder, which turns yellowish-gray on continued exposure to the air. It is soluble in three parts of cold water, in half its weight of warm water, and in alcohol. Its taste is bitter, but less disagreeable and less persistent than that of quinine. It is a powerful antipyretic, having properties identical with those of kairine, but its action is more prolonged and much more decided, and it produces no alteration of the blood. The reactionary rise of temperature following the reduction caused by it is not accompanied by shivering. It sometimes gives rise to moderate sweats (which, however, according to M. Huchard, do not occur when it is given in doses of not more than seven or eight grains), vomiting, pharyngeal constriction, and a special rash, but collapse has not been observed. According to Arduin and Hénocque, it has antiputrescent and hæmostatic properties. It is eliminated with the urine, in which it may be detected thirty-six hours after its administration. Filehne, who first experimented with it, gave it in quantities of from seventy-five to ninety grains, in three doses an hour apart. Others have given as much as a hundred and fifty grains. For fear of collapse, it is prudent, however, to raise the dose only as the effects are observed. In the case of children it is advised to give a grain and a half for each year of the age. The intensity and rapidity of its action are increased by giving it hypodermically. The solution in half its weight of warm water preserves its clearness on cooling. Injections into the buttock cause only temporary pain, without any inflammatory reaction. The pain, however, is sufficient to have caused several experimenters to give up the hypodermic administration, and one of them, M. Huchard, thinks it less efficacious than giving it by the mouth. Dr. Pávay, on the other hand, has noticed no pain or sense of burning after the injections (into the gluteal muscles, followed by friction for a few minutes), and urges their use whenever the administration of the drug by the mouth is not available.

Cocainization of the Bladder.—Dr. P. Bruns, of Tübingen ("Berlin. klin. Woch."; "Lancet"), records a case of litholapaxy in which the bladder and the urethra had been rendered insensitive with cocaine. The bladder was first washed out with a boro-salicylate solution; then three hundred grains of a two-per-cent. solution of cocaine were thrown in, and half that quantity was injected into the urethra. After a few minutes the bladder was filled with the boro-salicylate solution, and the operation was proceeded with. Throughout its whole duration, twenty-two minutes, no pain was felt, although previously the passage of a catheter had scarcely been borne. During the evacuation, each distension of the bladder caused pain, but that was when the anæsthesia had already lasted for half an hour. Finally, a small quantity of a ten-per-cent. solution of iodoform in glycerin was injected, to protect the abraded bladder from purulent absorption.

SUPPLEMENT.

PROCEEDINGS
OF THE
AMERICAN MEDICAL ASSOCIATION'S
NEW COMMITTEE
ON THE
INTERNATIONAL MEDICAL CONGRESS.

(*By Telegraph.*)

CHICAGO, *June 24, 1885.*—Pursuant to call, the American Medical Association's Committee on the International Medical Congress convened at the Palmer House, at 12.20 P. M., with the temporary chairman, Dr. R. Beverly Cole, and the temporary secretary, Dr. John V. Shoemaker, in their places; also the following gentlemen: Dr D. A. Linthicum, Helena, Ark.; Dr. George A. Ketchum, Mobile; Dr. A. Y. P. Garnett, Washington; Dr. William E. Duncan, Ellendale, Dakota; Dr. Robert Battey, Rome, Ga.; Dr. E. P. Cook, Mendota, Ill.; Dr. F. W. Beard, Vincennes, Ind.; Dr. D. W. Stormont, Topeka, Kan.; Dr. W. H. Wathen, Louisville; Dr. A. H. Wilson, South Boston; Dr. A. R. Smart, Hudson, Mich.; Dr. N. F. Essig, Plattsburg, Mo.; Dr. John S. Lynch, Baltimore; Dr. George F. French, Minneapolis; Dr. William Pierson, Orange, N. J.; Dr. J. W. S. Gouley, New York; Dr. E. Eliot, New York; Dr. X. C. Scott, Cleveland; Dr. I. Minis Hays, Philadelphia; Dr. F. L. Simm, Memphis; Dr. J. W. McLaughlin, Austin; Dr. E. F. Upham, West Randolph, Va.; Dr. Nicholas Senn, Milwaukee; Dr. G. Baird, Wheeling; Dr. John S. Billings, Washington, U. S. A.; Dr. John B. Hamilton, Washington, U. S. Marine-Hospital Service. Dr. French moved, duly seconded, that Dr. N. S. Davis, father of the American Medical Association, and Dr. William Brodie, president of same, be invited to seats during the deliberations of this committee. Dr. Eliot asked why they should be invited any more than others. Dr. Simm thought that if the invitation was extended to one, it should be to others who were equally distinguished. Regarding Dr. Brodie, some thought that he was already a member. The resolution passed at New Orleans said the president-elect should be a member *ex officio* of this committee. Dr. Cole thought the resolution was intended for Dr. H. F. Campbell. Dr. Battey inquired which gentleman the resolution was intended for, Campbell or Brodie. Dr. Wathen thought the gentlemen invited should be made exceptions of, as one was the editor of the association's journal and the other the president. Dr. Battey thought their advice and counsel would be valuable and was in favor of admitting them as guests. Dr. Smart said: If the president of the American Medical Association was a member *ex officio*, he had a right to be present and needed no invitation. Dr. Billings said that the original intent of the resolution was for Dr. Campbell and for no one else. He was in favor of inviting Dr. Davis and Dr. Brodie as guests of the committee, but, if they were admitted, he thought that they should not vote. The motion was then carried, and Dr. French and Dr. Billings were appointed a committee to escort Dr. Davis and Dr. Brodie to the hall.

The secretary read Dr. Flint's resignation. Dr. Battey said that while he regretted to lose the wise counsel of Dr. Flint yet he desired that his resignation be accepted, and that his proxy as a member of the committee be accepted. Dr. Smart asked that the action of the association at its meeting in New Orleans defining the power of those present in this direction be read before he voted, which was accordingly done although, as was stated by the chairman, it was not a part of this committee's work. Dr. Billings said it gave the committee of thirty-eight power to fill vacancies in their own number, but, if any of the original seven resigned, this thirty-eight could not fill the vacancy. He moved to lay the acceptance of Dr. Flint's resignation on the table, which was seconded by Dr. Wilson. Dr. Hamilton thought that the entire number now constituted the committee. The president said as he understood it, the thirty-eight were added to the seven, therefore the whole number now constituted the committee and the original number had become an integral part of it. Dr. Billings, with the consent of his seconder, then withdrew his motion, and the motion to accept Dr. Flint's resignation was carried unanimously. Dr. Hamilton moved, duly seconded, that Dr. Gouley be appointed a member of the committee in Dr. Flint's place. Carried. Dr. E. P. Cook said that he had a letter from Dr. Charles Denison, of Denver, stating that he was unavoidably absent, and that he desired Dr. H. A. Johnson to represent him. If Dr. Johnson could not accept, then he desired Dr. Cook to be his proxy. As Dr. Johnson was out of the city, Dr. Cook inquired if he could represent Dr. Denison. Dr. Battey then offered the following resolution: "That it was the sense of the committee that in the absence of members from its meeting the vacant places should be filled, if at all, by members of the American Medical Association for the vacant States or Government departments." Dr. Linthicum moved, as an amendment, that no proxies be received. Carried. Dr. Battey's resolution also prevailed. The secretary then read the minutes of the informal meeting of the committee that was held in New Orleans, which were adopted without correction. Dr. Hamilton, duly seconded, moved that the present temporary officers of the organization be made the permanent officers. Dr. Wilson moved that the voting be done by ballot. Dr. Cole and Dr. Shoemaker invited Dr. Lynch and Dr. Garnett to their places while they retired temporarily from the hall. Dr. Watson, of Iowa, offered as a substitute that the meeting proceed to take an informal ballot for president and secretary of the organization. Dr. N. S. Davis explained the facility with which a formal ballot could be taken after first taking an informal vote. Dr. Baird as a substitute moved that the meeting proceed to elect permanent officers by ballot. The latter was adopted. Dr. Cole was placed in nomination by Dr. Gouley. Dr. Lynch was nominated by Dr. Ketchum, resulting on the first ballot in Dr. Cole receiving 12 votes, Dr. Lynch 12 votes, Dr. Flint 1 vote, Dr. Hamilton 1 vote, Dr. Battey 1 vote. Total, 27 votes.

A second ballot was then taken, in which Dr. Cole received 13 votes, Dr. Lynch 14 votes, Dr. Battey 1 vote. Total, 28 votes, with no election.

A third ballot resulted as follows: Dr. Cole received 17 votes, Dr. Lynch 11 votes. Total, 28 votes.

Dr. Cole was declared elected permanent chairman. He stated that he would do his best to have the congress of 1887 a successful one. He was with no clique, and was one of all the members. He returned thanks for the honor thus conferred upon him, and would attend the committee's meetings, no matter what the cost might be to him, if his health permitted him to do so. Dr. Gouley thought that they should have a vice-chairman, and moved, duly seconded, that Dr. Lynch be made first vice-chairman, which was done by the vote of the secretary. Dr. Gouley nominated the present temporary secretary for the permanent officer of the committee. Others placed in nomination were Dr. Garnett and Dr. Billings, with one or two scattering votes, and Dr. Shoemaker received 16 out of 26 votes on the first ballot, and was declared permanent secretary. Dr. X. C. Scott offered the following resolution: "That the chair appoint a sub-committee of nine to prepare a revision of the rules and preliminary organization of the Ninth International Medical Congress, as published at Washington in 1884, and that this sub-committee report their revision to the Committee of Arrangements during its afternoon or evening session on this 24th of June, 1885." Carried. Dr. Gouley moved, duly seconded, that the future quorum be fifteen. Carried. The chair appointed Dr. Scott, of Ohio; Dr. Wathen, of Kentucky; Dr. Billings, U. S. Army; Dr. Shoemaker, of Pennsylvania; Dr. Hamilton, Marine-Hospital Service; Dr. Upham, of Vermont; Dr. Gouley, of New York; Dr. McLaughlin, Texas; and Dr. Linthicum, of Arkansas, the sub-committee. In accordance with the resolution offered by Dr. Scott, Dr. Simm suggested that the delegates from the different States be consulted in regard to the proper person to select from such States, and that members holding proxies be also consulted in regard to appointments in such States as were empowered to act for them by said authorities. Dr. Wilson moved, duly seconded, that members of this committee, who might desire, be invited to come before the sub-committee and make such suggestions regarding appointments from their States or Territories as they regarded proper. Carried. The committee adjourned until 7.30 P. M.

7.50 P. M.—President Cole presiding. Reading of minutes was dispensed with. Dr. Scott reported that the sub-committee had prepared only a partial report on rules governing the association, and asked that the committee be given further time, which, upon vote being taken, was granted. Dr. Garnett presented an opinion by Mr. Randall, Ex-speaker of the United States House of Representatives, relative to the legal status of the committee now in session. Some members of the American Medical Association having expressed the opinion that the present committee, which was appointed at the New Orleans meeting, was legally entitled to supersede the original committee of seven appointed at the Washington meeting, 1884. The opinion indorsed the action of the association. A motion was made by Dr. Hamilton that this opinion be ordered printed in the journal of the association. Dr. N. S. Davis said his opinion had already been published regardless of lawyers, which was in accordance with Mr. Randall's views. However, he had no objection to publishing it; it was so ordered. Adjourned until 9 A. M. Thursday.

The foregoing is all that has reached us at the hour at which we are obliged to go to press.—Editor.

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